HCD-H801

SERVICE MANUAL

AEP Model
UK Model
E Model
Australian Model

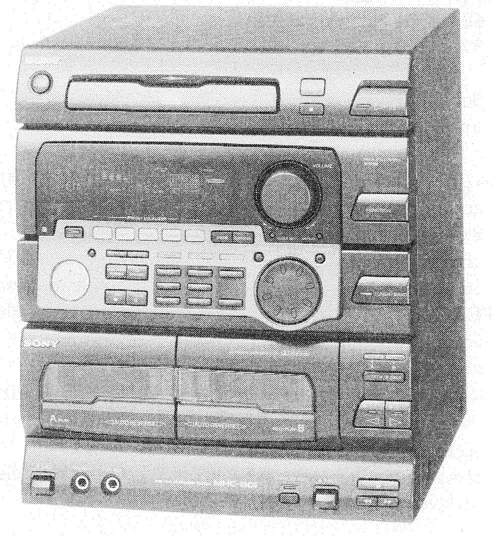

Photo : AEP Model

- HCD-H801 is the tuner, deck, CD and amplifier section in FH-G80.
- HCD-H801 is the tuner, deck, CD and amplifier section in MHC-801.

CD Section	Model Name Using Similar Mechanism	NEW
	CD Mechanism Type	CDM28-5BD19
	Base Unit Name	BU-5BD19
Tape deck Section	Model Name Using Similar Mechanism	HCD-C33
	Tape Transport Mechanism Type	TCM-220WR2

SPECIFICATIONS

CD player section

System	Compact disc digital audio system
Laser	Semiconductor laser
Wavelength	780 – 790 nm
Frequency response	2 Hz – 20 kHz

Tuner section

FM stereo, FM/AM superheterodyne tuner

FM tuner section

Tuning range	87.5 – 108.0 MHz (50 kHz step)
Aerial	FM lead aerial
Aerial terminals	75 ohm unbalanced
Intermediate frequency	10.7 MHz

AM tuner section

Tuning range
AEP, UK, East European, German model :
MW : 531 – 1,602kHz
LW : 153 – 279kHz
Italian model :
MW : 522 – 1,611kHz (9kHz step)
LW : 153 – 279kHz
E, Saudi Arabia, Argentine, Hong Kong, Mexican, Malaysia, Singapore, Australian model :
MW: 531 – 1,602 kHz
(9 kHz step)
530 – 1,710 kHz
(10kHz step)
SW: 5.95 – 17.9 kHz
(E3, Saudi Arabia, Hong Kong, Malaysia, Singapore model)

Aerial	AM loop aerial External aerial terminals
Intermediate frequency	450 kHz

Tape player section

Recording system	4-track 2-channel stereo
Frequency response	(DOLBY NR OFF) 40 – 13,000 Hz (±3 dB), using Sony TYPE I cassette 40 – 14,000 Hz (±3 dB), using Sony TYPE II cassette
Wow and flutter	0.1% WRMS ±0.3% (DIN)

– Continued on page 2 –

MICROFILM

COMPACT DISC DECK RECEIVER

SONY®

Amplifier section

Peak music power output
1000 W

Continuous RMS power output
68 + 68 W (6 ohms at 1 kHz, 5% THD)

Inputs
AUX IN: Sensitivity 450 mV, impedance 47 kilohms

Outputs
PHONES (stereo phone jack):
accept headphones of 8 ohms or more.
SPEAKER: accept impedance of 6 to 16 ohms.
SURROUND SPEAKER:
accept impedance of 16 ohms.
(Singapore, Malaysia, Mexican model)
accept impedance of 8 to 16 ohms. (EXCEPT Singapore, Malaysia, Mexican model)

Speaker section

Speaker system
3-way system
Speaker units Woofer: 15 cm dia., cone type
Tweeter: 5 cm dia., cone type
Super tweeter: 2 cm dia., dome type
Enclosure Bass reflex
Frequency range
60 Hz – 20 kHz
Sensitivity 87 dB/W/m
Rated impedance
6 ohms
Dimensions Approx. 210 x 325 x 250 mm (w/h/d)
Mass Approx. 3.6 kg net per speaker

Supplied accessories

AM loop aerial (1)
Remote (1)
Sony SUM-3 (NS) batteries (2)
FM lead aerial (1)
Speaker cables (2)

General

Power requirement
Malaysian model
220 – 240 V AC, 50/60 Hz
Other models 110 – 120 V
220 – 240 V AC, 50/60 Hz
Adjustable with the voltage selector
Power consumption
140 W
Dimensions Approx. 280 x 325 x 335 mm (w/h/d)
incl. projecting parts and controls
Mass Approx. 8.3kg (EXCEPT AEP, UK Model)
Approx. 7.8kg (AEP, UK Model)

Design and specifications are subject to change without notice.

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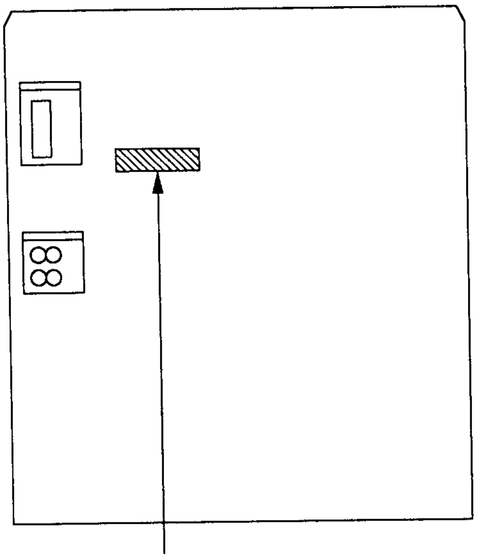
MODEL IDENTIFICATION
– BACK PANEL –



4-971-977-0□ : AEP (AE1) model
4-971-977-1□ : AEP (AE2) model
4-971-977-2□ : IT model
4-971-977-3□ : G model
4-971-977-4□ : UK (UK2) model
4-971-977-5□ : EE model
4-971-977-6□ : AEP (AE1) model
4-971-978-0□ : E model
4-971-978-1□ : EA model
4-971-978-2□ : AUS model
4-971-978-3□ : SP model
4-971-978-4□ : MX model
4-971-978-5□ : MY model
4-971-978-6□ : AR model
4-971-978-7□ : HK model

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1
SERVICING NOTES

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

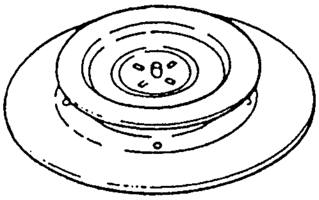
NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe more than 25cm away form the objective lens.

CHUCK PLATE JIG ON REPAIRING

On repairing CD section, playing a disc without the CD lid, use Chuck Plate Jig.

- Code number of Chuck Plate Jig : X-4918-255-1



Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

CAUTION : INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
ADVARSEL : USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDS ÆTTELSE FOR STRÅLING.
VARO! : AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA LASERSÄTEILYLLE.
VARNING : LASERSTRÅLNING NÅR DENNA DEL ÄR OPPNÅD OCH SPÄRREN ÄR URXOPPLAD.
ADVARSEL : USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES UNNGÅ EKSPONERING FOR STRÅLEN.

This caution label is located inside the unit.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

SECTION 2
GENERAL

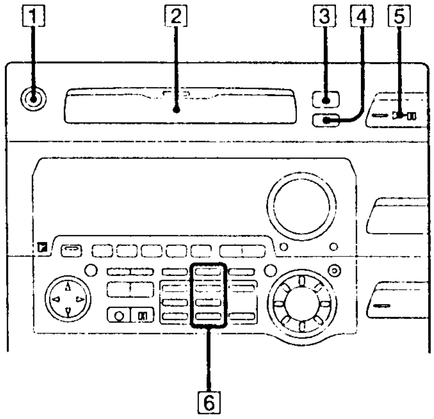
This section is extracted from instruction manual.

Index to Parts and Controls

Refer to the pages indicated in parentheses for how to use the controls.
Controls with an asterisk have indicators on themselves.

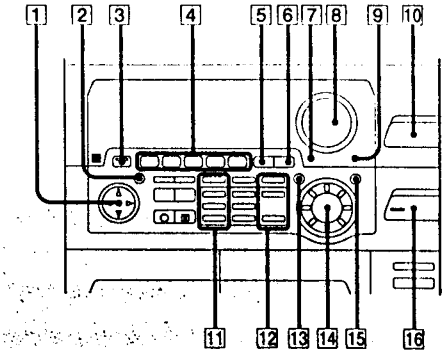
Front Panel

CD player



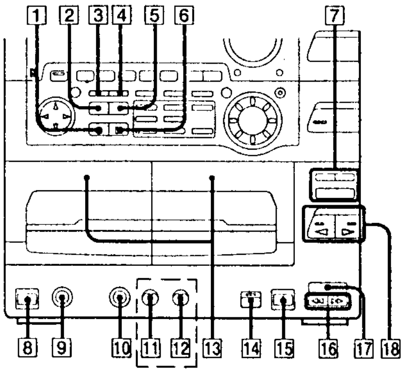
1 SYSTEM POWER ON/STAND BY switch (7)
2 CD tray (7)
3 ≜ OPEN / CLOSE button (7)
4 ■ (stop) button (7)
5 ▷II (play and pause) button* (7)
6 CD operating buttons
  CONTINUE button (8)
  SHUFFLE button (8)
  PROGRAM button (8)

Tuner/Amplifier



1 EQ CONTROL button* (18)
2 MEMORY button (18)
3 USER FILE button* (18)
4 Preset equalizer setting buttons* (17)
5 DBFB button (17)
6 SURROUND button (17,21)
7 CLOCK SET button (6)
8 VOLUME control (17,19)
9 DISPLAY button (6,7)
10 FUNCTION button (8,14,21)
11 Timer operating buttons
  TIMER SET button (19)
  DAILY button (19)
  TIMER REC button (20)
12 Tuner operating buttons
  TUNING MODE button (10,20)
  MONO button (10)
13 TUNER MEMORY button (11)
14 Jog dial (6,7,10,14,19)
15 ENTER/NEXT button* (6,11,19)
16 TUNER/BAND button* (10,15,20)

Tape player

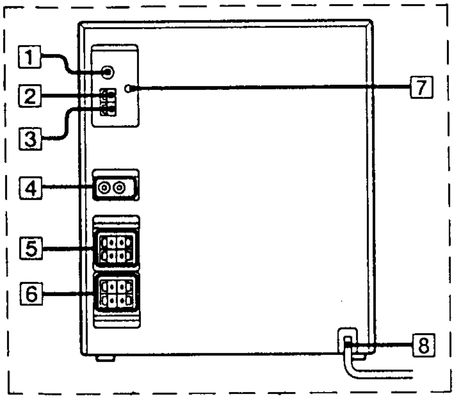


E, EA, AR, HK, MX,
MY, SP, AUS model

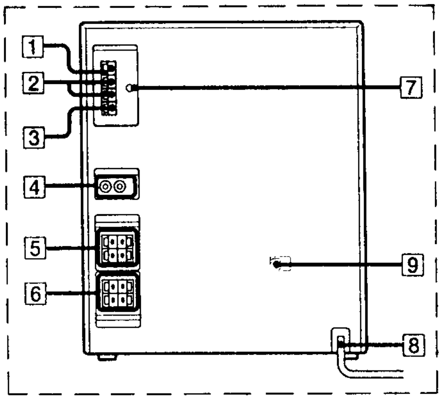
1 ● REC button* (13)
2 HIGH SPEED DUBBING button (16)
3 DOLBY NR button (12)
4 DIRECTION button (12)
5 CD SYNCHRO button (13)
6 II PAUSE button* (12)
7 DECK A/DECK B button and A/B lamps (12)
8 ≜ EJECT button (for deck A) (12)
9 PHONES jack (17)
10 MIX MIC jacks (21)
11 MIC VOLUME control (21) E, EA, AR, HK, MX,
12 ECHO VOLUME control (21) MY, SP, AUS model
13 Tape compartments (12)
14 KARAOKE PON/MPX button (21)
15 ≜ EJECT button (for deck B) (12)
16 ▶▶ (fast rightward) (12)
  ◀◀ (fast leftward) buttons (12)
17 ■ (stop play) button (12)
18 ▷ (front side play)* (12)
  ◁ (reverse side play) buttons* (12)

Rear panel

AEP, G, IT, EE, UK model

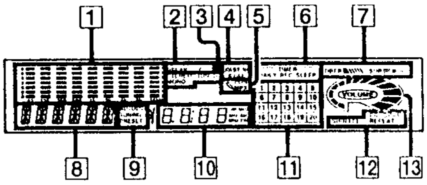


E, EA, AR, HK, MX, MY, SP, AUS model



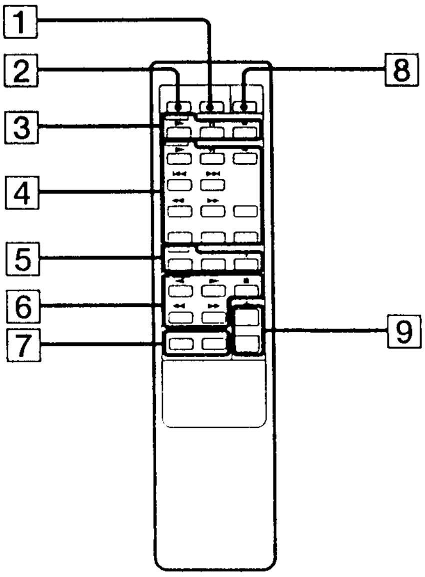
1 FM 75 Ω COAXIAL terminal (4) :
AEP, G, IT, EE, UK model
1 FM 75 Ω terminal (4) :
E, EA, AR, HK, MX, MY, SP, AUS model
2 ⏚ earth terminals (4)
3 AM terminal (4)
4 AUX IN jacks (21)
5 SPEAKER connectors (4)
6 SURROUND SPEAKER connectors (21)
7 ⏚ ground terminal (4)
8 Mains lead (5)
9 VOLTAGE SELECTOR (5) :
E, EA, AR, HK, MX, MY, SP, AUS model

Display window



1 Spectrum analyzer (18)
2 Tape direction indications (12)
3 Tuner indications (10)
4 DOLBY NR indication (12)
5 Karaoke indication (21)
6 TIMER/DAILY/REC/SLEEP indication (19,20)
7 DBFB/SUR indications (17,21)
8 Function indication (14,16)
9 AUTO/TUNING/PRESET/STEP indications (10,11,20)
10 Frequency/time indication (6,10)
11 Music calendar (7)
12 CD play mode indications (8,9)
13 VOLUME indication (17)

Remote (RM-S33)



1 SLEEP button (19)
2 FUNCTION button (8,14,21)
3 MD operating buttons
    ► (play) button
    II (pause) button
    ■ (stop play) button
4 CD operating buttons
    ► (play) button (7)
    II (pause) button (7)
    ■ (stop play) button (7)
    ⏮/⏭ (AMS) buttons (7)
    ◀◀/▶▶ (fast forward/fast reverse) buttons (7)
    REPEAT button (9)
    EDIT button (14)
    CHECK button (8,14)
    CLEAR button (8)
5 Tuner operating buttons
    BAND button (10,15,20)
    PRESET (+/–) buttons (11)
6 Tape operating buttons
    ◄/► buttons (12)
    ■ button (12)
    ◀◀/▶▶ buttons (12)
7 TAPE A/B buttons (12)
8 SYSTEM POWER button (7)
9 VOL(+/–) buttons (17,19)

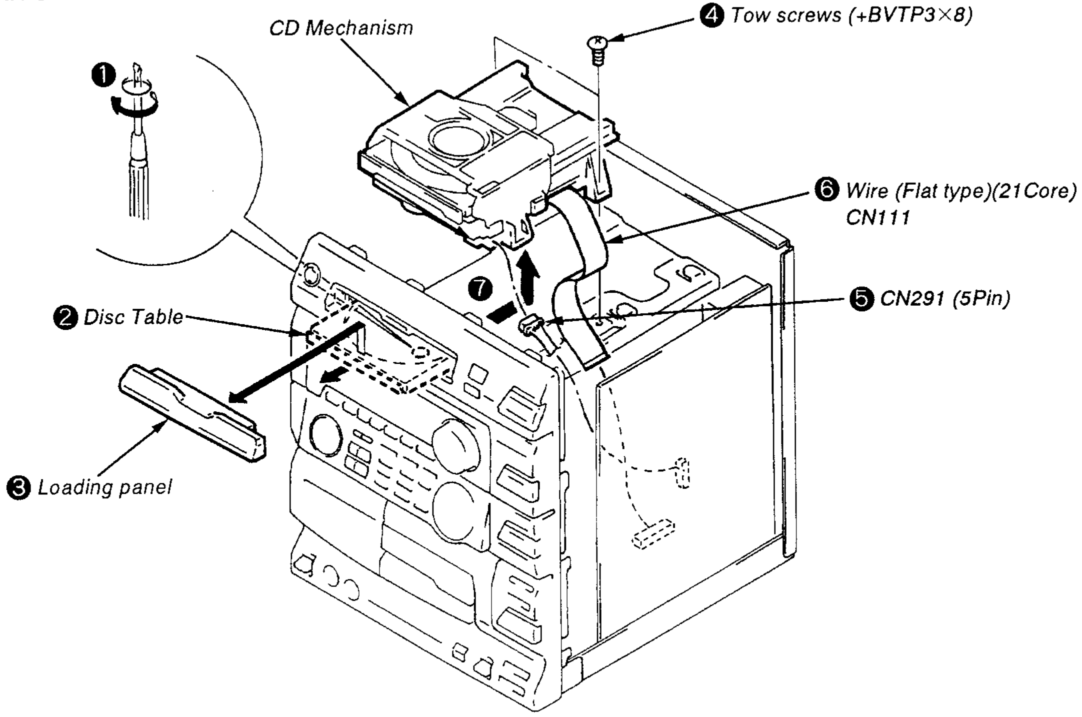
- Abbreviations

G	: German	MX	: Mexican
IT	: Italian	MY	: Malaysia
EE	: East European	SP	: Singapore
AUS	: Australian		
EA	: Saudi Arabia		
AR	: Argentine		
HK	: Hong Kong		

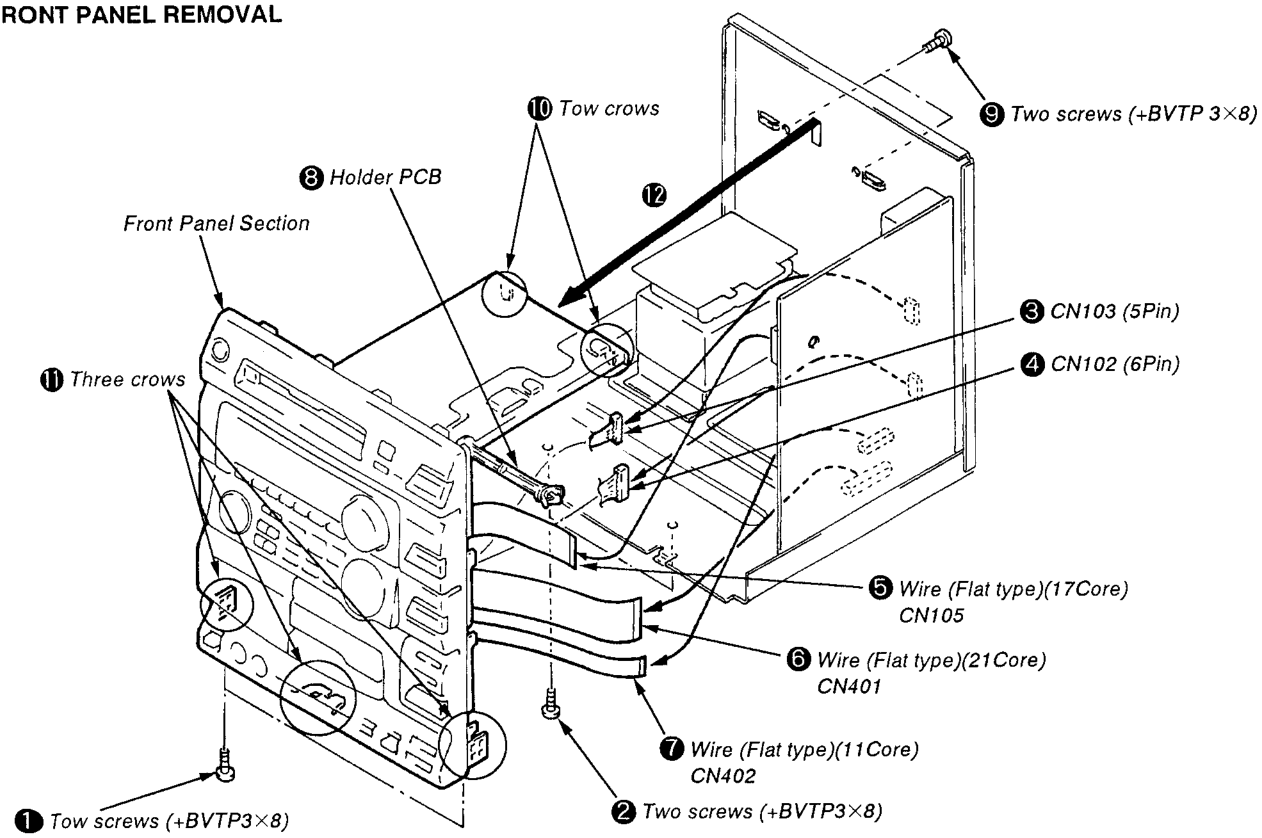
SECTION 3
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

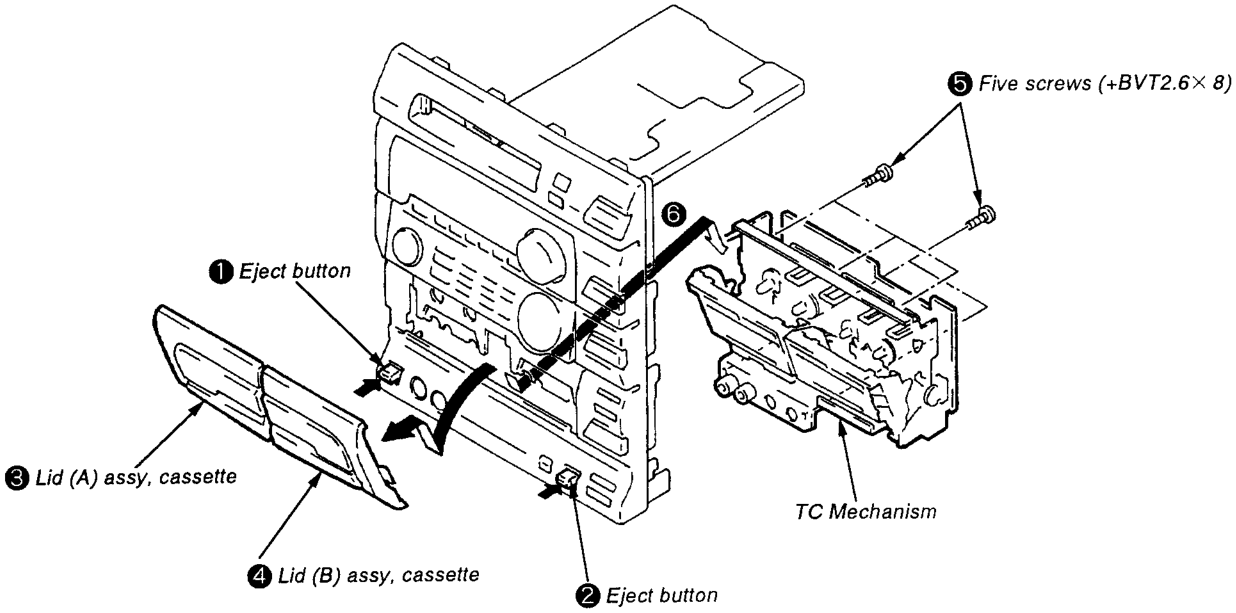
3-1. CD MECHANISM REMOVAL


CD Mechanism
❹ Tow screws (+BVTP3×8)
❶
❻ Wire (Flat type)(21Core)
CN111
❼
❺ CN291 (5Pin)
❷ Disc Table
❸ Loading panel

3-2. FRONT PANEL REMOVAL


❿ Tow crows
❾ Two screws (+BVTP 3×8)
❽ Holder PCB
⓬
Front Panel Section
⓫ Three crows
❸ CN103 (5Pin)
❹ CN102 (6Pin)
❺ Wire (Flat type)(17Core)
CN105
❻ Wire (Flat type)(21Core)
CN401
❼ Wire (Flat type)(11Core)
CN402
❷ Two screws (+BVTP3×8)
❶ Tow screws (+BVTP3×8)

3-3. TC MECHANISM REMOVAL


❺ Five screws (+BVT2.6×8)
❻
❶ Eject button
❸ Lid (A) assy, cassette
TC Mechanism
❹ Lid (B) assy, cassette
❷ Eject button

SECTION 4
ADJUSTMENTS

4-1. MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab :
   - record/playback head
   - erase head
   - capstan
   - pinch roller
   - rubber belts
   - idlers
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

- **Torque Measurement**

Mode	Torque Meter	Meter Reading
Forward	CQ-102C	36 to 61g•cm (0.50 – 0.84 oz•inch)
Forward Back Tension	CQ-102C	2 to 6g•cm (0.026 – 0.082 oz•inch)
Reverse	CQ-102RC	36 to 61g•cm (0.50 – 0.84 oz•inch)
Reverse Back Tension	CQ-102RC	2 to 6g•cm (0.026 – 0.082 oz•inch)
FF, REV	CQ-201B	61 to 143g•cm (0.85 – 1.98 oz•inch)

- **Tape Tension Measurement**

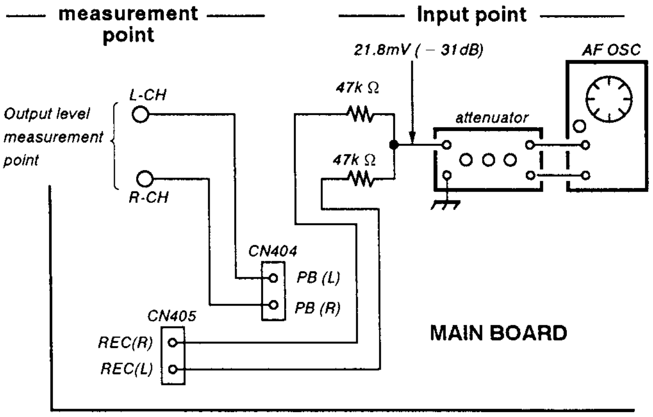
Mode	Tension Meter	Meter Reading
Forward	CQ-403A	more than 1kg (35.2 oz)
Reverse	CQ-403R	more than 1kg (35.2 oz)

4-2. ELECTRICAL ADJUSTMENTS

DECK SECTION

1. The adjustment should be performed in the publication. (Be sure to make playback adjustment at first.)
2. The adjustment and measurement should be performed for both L-CH and R-CH.
   - Switch position
     DOLBY NR switch : OFF
     FUNCTION button : CD
3. Deck section electrical adjustments are made in test mode by pressing TUNER/BAND, DISPLAY, and POPS at the same time.
4. Input point and output level measurement point.

Output level


measurement point
Input point
21.8mV (– 31dB)
AF OSC
47k Ω
attenuator
47k Ω
Output level measurement point
L-CH
R-CH
CN404
PB (L)
PB (R)
CN405
REC(R)
REC(L)
MAIN BOARD

- **Test Tape**

Tape	Contents	Use
P-4-A100	10kHz, – 10dB	Head Azimuth Adjustment
P-4-L300	315Hz, 0dB	Level Adjustment
WS-48B	3kHz, 0dB	Tape Speed Adjustment

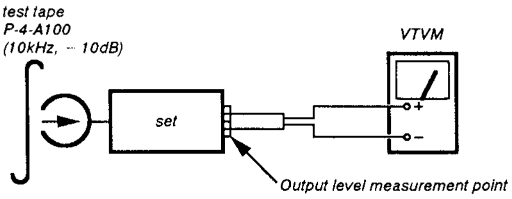
0 dB=0.775V

Record/Playback Head Azimuth Adjustment

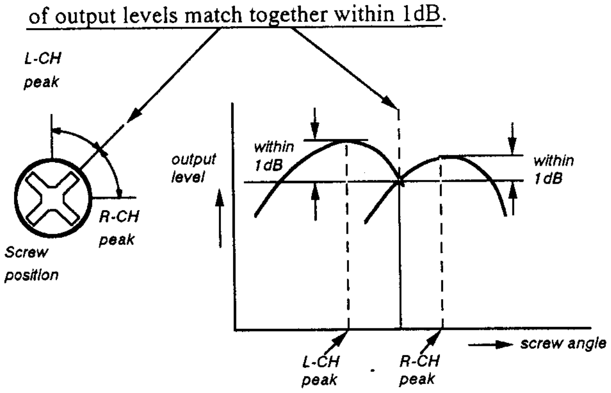
DECK A **DECD B**

Procedure :

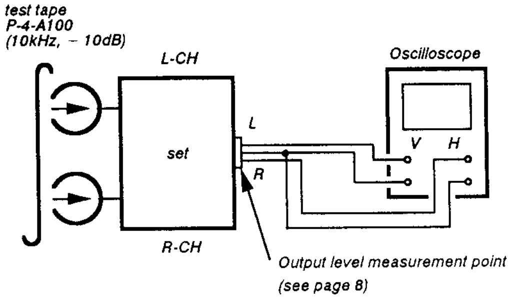
1. Forward Playback mode
   Reverse Playback mode

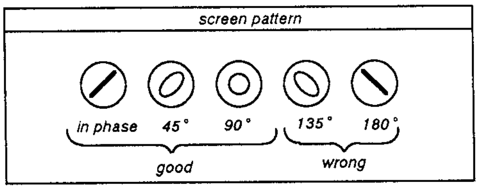

test tape
P-4-A100
(10kHz, – 10dB)
VTVM
set
+
–
Output level measurement point

2. Turn the adjustment screw for the maximum output levels.If these levels do not match,turn the adjustment screw until both of output levels match together within 1dB.


L-CH
peak
R-CH
peak
Screw
position
output
level
within
1dB
within
1dB
screw angle
L-CH
peak
R-CH
peak

3. Playback Mode

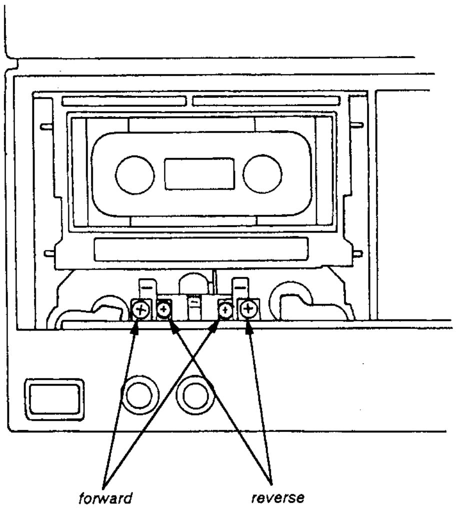

test tape
P-4-A100
(10kHz, – 10dB)
L-CH
Oscilloscope
set
L
R
V
H
R-CH
Output level measurement point
(see page 8)


screen pattern
in phase
45°
90°
135°
180°
good
wrong

4. Change the review playback mode and repeat the steps 1 to 3.
5. After the adjustment, lock the adjustment screw with suitable locking compound.

Adjustment Location :

– record/playback head (Deck A and B)

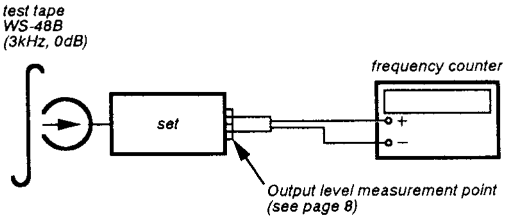

forward
reverse

Tape Speed Adjustment DECK A DECK B

Procedure :

- Perform high speed adjustment before normal speed adjustment.

  Mode : Playback


test tape
WS-48B
(3kHz, 0dB)
frequency counter
set
+
–
Output level measurement point
(see page 8)

Speed	Deck	Adjustment	Frequency counter
※ High	A	RV652	5,970 to 6,030Hz
	B	RV652	
Normal	A	RV651	3,000 to 3,020Hz
	B	RV651	

∗ Continue to press HIGH SPEED DUBBING switch (S3019) in playback mode : High speed playback.

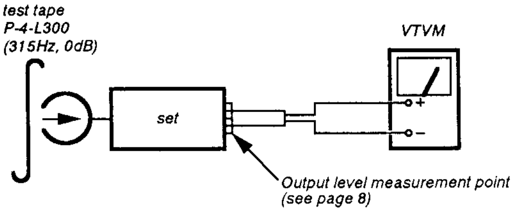
Frequency difference between the begining and the end of the tape should be within ± 3%.
Frequency difference between deck A and deck B the biginning of the tape should be within 1.5%.

Adjustment Location : AUDIO board.
(see page 10)

Playback Level Adjustment DECK A DECK B

Procedure :

Mode : Playback


test tape
P-4-L300
(315Hz, 0dB)
VTVM
set
+
–
Output level measurement point
(see page 8)

Deck A is RV311(L-CH) and RV411(R-CH), deck B is RV301 (L-CH) and RV401 (R-CH) so that adjustment within adjustment level as follows.

Adjustment Level :

LINE OUT level: – 7.5 ± 0.5dB (0.31 to 0.35V)
Level Difference between Channels : within 0.5dB

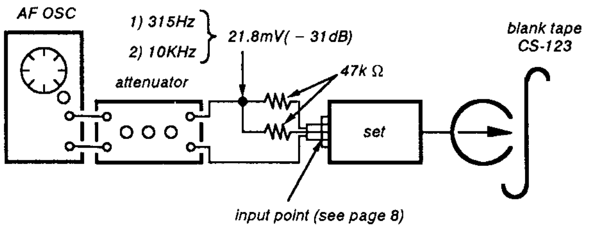
Confirm the DOLBY OUT level does not change in playback mode while changing the mode from playback to stop several times.

Adjustment Location : AUDIO board.
(see page 10)

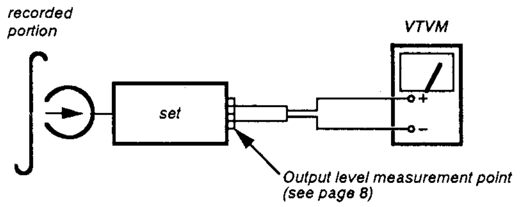
Record Bias Adjustment **DECK B**

Procedure :

1. Record mode


AF OSC
1) 315Hz
2) 10KHz
21.8mV(− 31dB)
attenuator
47k Ω
set
blank tape
CS-123
input point (see page 8)

2. Playback mode


recorded portion
VTVM
set
Output level measurement point (see page 8)

3. Confirm playback the signal recorded in step 1 become adjustment level as follows.
4. If these levels do not adjustment level, adjustment the RV341 (L-CH) and RV441 (R-CH) to repeat step 1 and 4.

Adjustment level : Playback output of 315Hz to playback output of 10kHz : − 0.5dB to 0.5dB. (− 1.3 to 1.3mV)

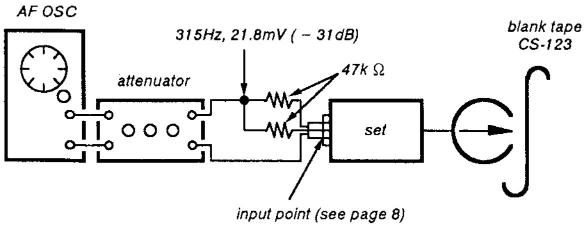
Adjustment Location : AUDIO board. (see page 10)

Record Level Adjustment **DECK B**

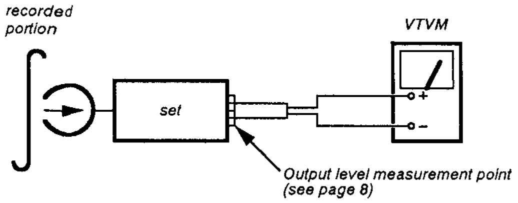
FUNCTION button : CD

Procedure :

1. Record mode


AF OSC
315Hz, 21.8mV (− 31dB)
attenuator
47k Ω
set
blank tape
CS-123
input point (see page 8)

2. Playbacd mode


recorded portion
VTVM
set
Output level measurement point (see page 8)

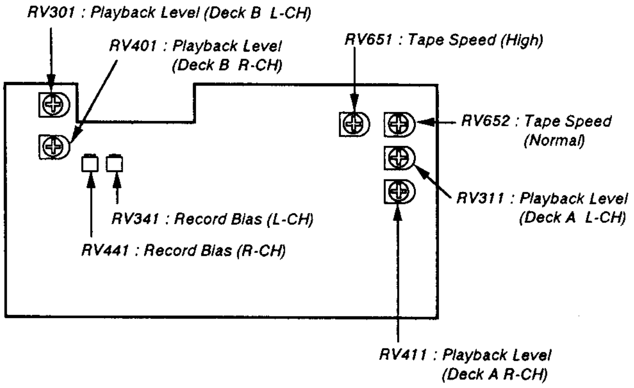
3. Confirm playback the signal recorded in step become adjustment level as follows.
4. If these levels do not adjustment level, adjustment the RV401(L-CH) and RV451 (R-CH) to repeat step 1 and 4.

Adjustment Level :
DOLBY OUT level : − 26dB ± 0.5dB (36.7 to 41.1mV)

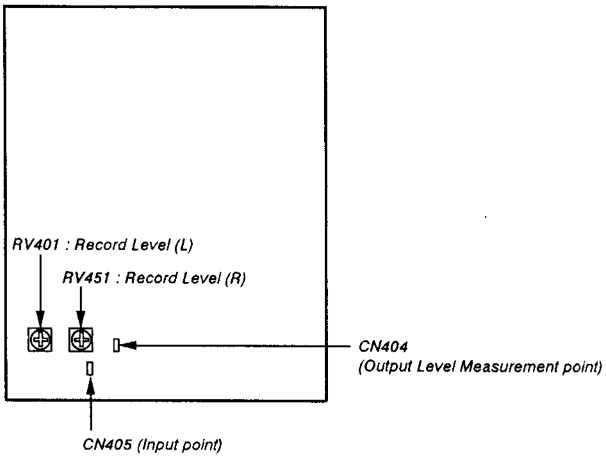
Adjustment Location : MAIN board

Adjustment Location :

[AUDIO BOARD] − Component side −


RV301 : Playback Level (Deck B L-CH)
RV401 : Playback Level (Deck B R-CH)
RV651 : Tape Speed (High)
RV652 : Tape Speed (Normal)
RV311 : Playback Level (Deck A L-CH)
RV341 : Record Bias (L-CH)
RV441 : Record Bias (R-CH)
RV411 : Playback Level (Deck A R-CH)

[MAIN BOARD] − Component side −


RV401 : Record Level (L)
RV451 : Record Level (R)
CN404 (Output Level Measurement point)
CN405 (Input point)

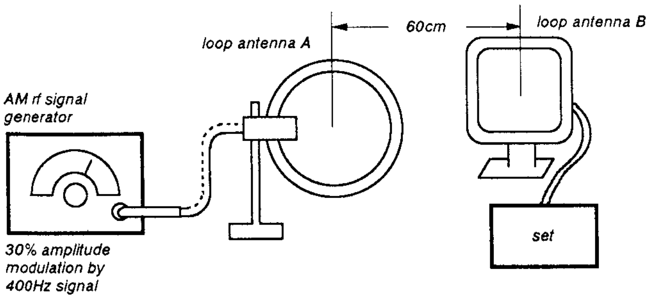
TUNER SECTION

Note. 1 : The adjustment should be performed in the publication. (AM → FM → SW)

Note. 2 : As a front-end (FE1) is difficult to repair if faulty, replace it with new one.

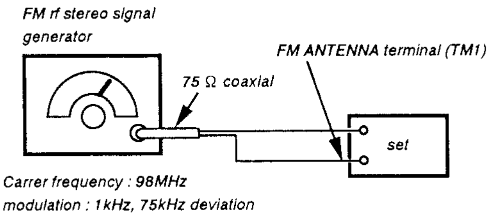
AM Section Adjustment

Setting :


60cm
loop antenna A
loop antenna B
AM rf signal generator
set
30% amplitude modulation by 400Hz signal

FM Section Adjustment

Setting :


FM rf stereo signal generator
FM ANTENNA terminal (TM1)
75 Ω coaxial
set
Carrer frequency : 98MHz
modulation : 1kHz, 75kHz deviation

AM Tuned Indication Lighting Level Adjustment

Band : MW

Procedure :

1. Set loop antenna A so that the loop antenna B input level becomes 3.2mV (70dBμ)
2. Tune the set to 999kHz.
3. Adjust RV41 so that the TUNED light up.
4. Confirm that the TUNED light off with AM RF SG output level set at 0dBμ.
5. Confirm the FM tuned indication lighting level and adjust if necessary.

Adjustment Location : Main board

FM Tuned Indication Lighting Level Adjustment

Band : FM

Procedure :

1. Supply a 11.2μV (21dBμ) 98MHz signal to the ANTENNA terminal.
2. Tune the set to 98MHz.
3. Adjust RV42 so that the TUNED light up.
4. Confirm that the TUNED light off with FM RF signal generator output level set at 16dBμ.

Adjustment Location : Main board

SW OSC Voltage Adjustment

Band : SW

(E3, Saudi Arabia, Hong Kong, Malaysia, Singapore model)

Procedure :

1. Connecct the VOM to JW376 (OSC)
2. Tune the set to 5.95MHz.
3. Adjust T2 for 1.0 to 1.1V reading on the VOM.
4. Tune the set to 17.90MHz.
5. Adjust CV2 for 8.4 to 8.6V reading on the VOM.

SW Tracking Adjustment

Band : SW

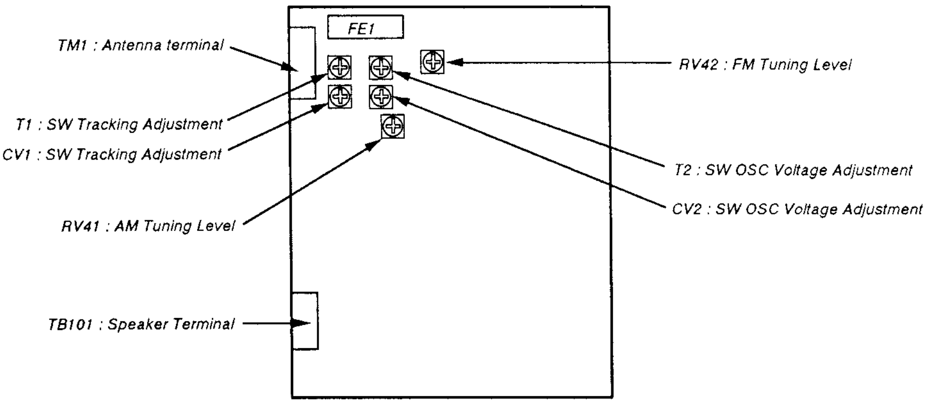
Procedure :

1. Connect the VOM to speaker terminal. (TB101)
2. Adjust for a maximum reading on VOM.

Signal generator and set frequency	Adjustment part
7.0 MHZ	T1
17.0 MHZ	CV1

Adjustment Location : Main board

[MAIN BOARD] – Component side –


FE1
TM1 : Antenna terminal
T1 : SW Tracking Adjustment
CV1 : SW Tracking Adjustment
RV41 : AM Tuning Level
TB101 : Speaker Terminal
RV42 : FM Tuning Level
T2 : SW OSC Voltage Adjustment
CV2 : SW OSC Voltage Adjustment

CD SECTION

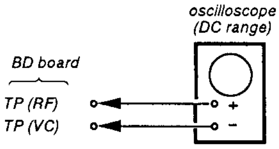
Note :

1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10M Ω impedance.
4. Clean an object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

Focus Bias Adjustment

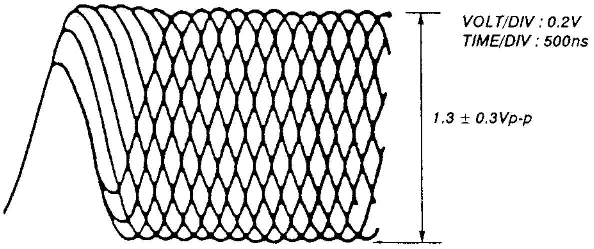
This adjustment is to be done when the optical block is replaced.

Adjustment procedure :



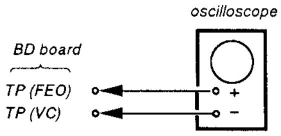
1. Connect oscilloscope to test point TP (VC) and TP (RF) on main board.
2. Turned power switch ON. (Stop mode)
3. Put disc (YEDS-18) in and press the ▶ button.
4. Press the DISPLAY/ENTER button. (Tracking servo ON)
5. Adjust RV101 so that the oscilloscope waveform is as shown in the figure below (eye pattern).
   A good eye pattern means that the diamond shape (◇) in the center of the waveform can be clearly distinguished.
6. Release test mode after adjustment is completed.

- RF signal reference waveform (eye pattern)



When observing the eye pattern, set the oscilloscope for AC range and raise vertical sensitivity.

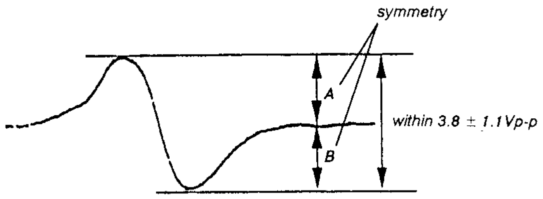
S-Curve Check



Procedure :

1. Connect oscilloscope to test point TP (FEO) and BD board.
2. Connect between test point TP (FOK) and GND by lead wire.
3. Turned Power switch on.
4. Put disc (YEDS-18) in and turned Power switch on again and actuate the focus search. (actuate the focus search when disc table is moving in and out.)
5. Check the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm peak to peak level within 3.8 ± 1.1Vp-p.

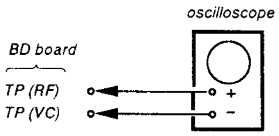
S-curve waveform



6. After check, remove the lead wire connected in step 2.

Note : ● Try to measure several times to make sure that the ratio of A : B or B : A is more than 10 : 7.
● Take sweep time as long as possible and light up the brightness to obtain best waveform.

RF Level Check



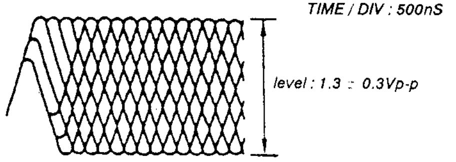
Procedure :

1. Connect oscilloscope to test point TP (RF) on BD board.
2. Turned Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

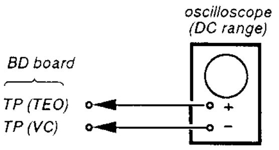
Note :

Clear RF signal waveform means that the shape " ◇ " can be clearly distinguished at the center of the waveform.

RF signal waveform



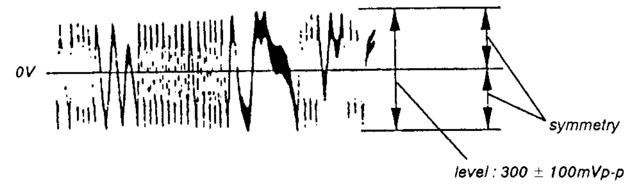
E-F Balance Check



Procedure :

1. Ground main board IC101 pin (56) with the lead wire.
2. Connect oscilloscope to test point TP (TEO) on BD board.
3. Turned Power switch on.
4. Put disc (YEDS-18) in and playback.
5. Confirm that the osilloscope waveform is symmetrical on the top and bottom in relation to 0V, and check this level.

Traverse waveform



6. Remove the lead wire connected in step 1.

Focus/Tracking Gain

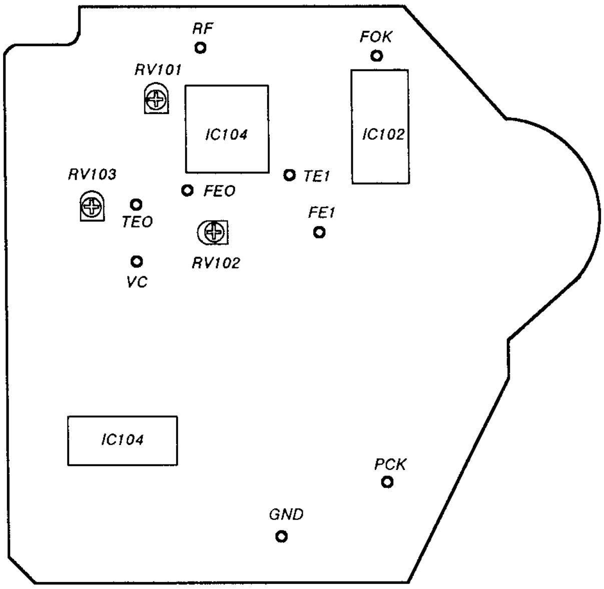
This gain has a margin, so even if it is slightly off. There is no problem.

Therefore, do not perform, this adjustment.

Please note that it should be fixed to mechanical center position when you moved and do not know original position.

Adjustment Location :

[BD BOARD] – Component side –


RF
FOK
RV101
IC104
IC102
RV103
TE1
FEO
FE1
TEO
RV102
VC
IC104
PCK
GND

SECTION 5
EXPLANATION OF IC TERMINALS

IC101 TMP87CP64F-6254

<table>
<tr><th>Pin No.</th><th>Pin name</th><th>I/O</th><th>Description</th></tr>
<tr><td>1</td><td>Vss</td><td>–</td><td>GND</td></tr>
<tr><td>2</td><td>X OUT</td><td>O</td><td rowspan="2">Main system clock. (8MHz)</td></tr>
<tr><td>3</td><td>X IN</td><td>I</td></tr>
<tr><td>4</td><td>$\overline{\text{AC. CUT}}$</td><td>I</td><td>Reset signal input terminal.</td></tr>
<tr><td>5</td><td>X OUT</td><td>O</td><td rowspan="2">Sub system clock. (32.768kHz)</td></tr>
<tr><td>6</td><td>X IN</td><td>I</td></tr>
<tr><td>7</td><td>GND</td><td>–</td><td>GND</td></tr>
<tr><td>8</td><td>$\overline{\text{BACK UP}}$</td><td>I</td><td>BACK-UP mode input terminal.</td></tr>
<tr><td>9</td><td>COUNT SW</td><td>–</td><td>Not used. (GND)</td></tr>
<tr><td>10</td><td>INIT SW</td><td>–</td><td>Not used. (GND)</td></tr>
<tr><td>11</td><td>DISC SENS</td><td>–</td><td>Not used. (GND)</td></tr>
<tr><td>12</td><td>MID SENS</td><td>–</td><td>Not used. (GND)</td></tr>
<tr><td>13</td><td>CD XRST</td><td>O</td><td>CD Reset output. “L” : RESET</td></tr>
<tr><td>14</td><td>POWER</td><td>O</td><td>Power on output. “L” : ON</td></tr>
<tr><td>15</td><td>MUTE</td><td>O</td><td>Mute output. “L” : MUTE</td></tr>
<tr><td>16</td><td>MPX</td><td>O</td><td>MPX Control output.</td></tr>
<tr><td>17</td><td>KEYCON LATCH</td><td>–</td><td>Not used. (OPEN)</td></tr>
<tr><td>18</td><td>VOL LATCH</td><td>O</td><td>Latch output to volume control. (TC9210P)</td></tr>
<tr><td>19</td><td>K. PON A</td><td>–</td><td>Not used. (OPEN)</td></tr>
<tr><td>20</td><td>K. PON B</td><td>–</td><td>Not used. (OPEN)</td></tr>
<tr><td>21</td><td>FUNC A</td><td>O</td><td rowspan="2">Function Select.
<table>
<tr><th>FUNCTION</th><th>FUNC A</th><th>FUNC B</th></tr>
<tr><td>ST</td><td>L</td><td>L</td></tr>
<tr><td>CD</td><td>L</td><td>H</td></tr>
<tr><td>TC</td><td>H</td><td>L</td></tr>
<tr><td>AUX</td><td>H</td><td>H</td></tr>
</table></td></tr>
<tr><td>22</td><td>FUNC B</td><td>O</td></tr>
<tr><td>23</td><td>FUNC C</td><td>–</td><td>Not used. (OPEN)</td></tr>
<tr><td>24</td><td>GEQ. LATCH</td><td>O</td><td>Latch output to gray control. (M62423FP)</td></tr>
<tr><td>25</td><td>RDS. INT</td><td>I</td><td>RDS DATA START Signal input.</td></tr>
<tr><td>26</td><td>SCOR (DSP)</td><td>I</td><td>Sub-code sync SO+SI detection input from DSP. (CXD2507AQ)</td></tr>
<tr><td>27</td><td>SENS</td><td>I</td><td>SENS input from DSP. (CXD2507AQ)</td></tr>
<tr><td>28</td><td>CD POWER</td><td>O</td><td>Power on output. “H” : ON</td></tr>
<tr><td>29</td><td>CDG LATCH</td><td>–</td><td>Not used. (OPEN)</td></tr>
<tr><td>30</td><td>DBFB</td><td>O</td><td>DBFB Select output. “H” : DBFB LOW “L” : DBFB HIGH</td></tr>
<tr><td>31</td><td>MUTE</td><td>O</td><td>TUNER MUTE Output.</td></tr>
<tr><td>32</td><td>CE</td><td>O</td><td>Chip enable output to tuner PLL IC (LC72130)</td></tr>
<tr><td>33</td><td>STEREO</td><td>I</td><td>FM/AM Stereo identification. “L” : STEREO</td></tr>
<tr><td>34</td><td>TUNED</td><td>I</td><td>FM/AM Tuning identification. “L” : TUNING</td></tr>
<tr><td>35</td><td>SQ-RDS-CLK</td><td>O</td><td>Sub-code Q data scanning clock output to DSP (CXD2507AQ), RDS clock output.</td></tr>
<tr><td>36</td><td>SQ-RDS-DI</td><td>I</td><td>Sub-code Q data input from DSP (CXD2507AQ), RDS data input.</td></tr>
<tr><td>37</td><td>RDS-RESET</td><td>O</td><td>RDS Reset signal output.</td></tr>
<tr><td>38</td><td>CLK</td><td>O</td><td>System clock output.</td></tr>
<tr><td>39</td><td>D. IN</td><td>I</td><td>Serial data input from tuner.</td></tr>
<tr><td>40</td><td>D. OUT</td><td>O</td><td>Serial data (COMN) output.</td></tr>
<tr><td>41</td><td>TABLE SENS</td><td>–</td><td>Not used. (OPEN)</td></tr>
<tr><td>42</td><td>REQ GM</td><td>I</td><td>Data transmission request input from system control.</td></tr>
</table>

Pin No.	Pin name	I/O	Description
43	REQ MG	O	Data transmission request output to system control.
44	CLK MG	O	Clock output for communications with system control.
45	D. GM	I	Serial data input form system control.
46	D. MG	O	Serial data output to system control.
47	RDY	I/O	System control Ready signal input/output. "L" : READY
48	VAREF	–	Power suppiy. (+5V)
49	VASS	–	GND
50	Vss	–	GND
51	VDD	–	Power supply (+5V)
52	URGENT. SIG	I	Not used. (+5V)
53	URGENT. STBY	I	Not used. (OPEN)
54	BUG Y/$\overline{\text{N}}$	–	Not used. (GND Connected)
55	ADJUSTOR	–	Not used. ("H" LEVEL)
56	ADJUST2	–	Not used. ("H" LEVEL)
57	MAGIC SPEED	–	Not used. ("H" LEVEL)
58	SPEC	I	SPECIFICATION Select input. (A/D Converter)
59	DIST	I	Model Select input. (A/D Converter)
60	SPEED	–	Not used. ("H" LEVEL)
61	BREAK	–	Not used. ("H" LEVEL)
62	B-PLAY	I	Deck-B PLAY Switch input. "H" : PLAY
63	B-SHUT	I	Deck-B Reel table signal input.
64	B-HALF	I	Deck-B Record prevention claw A, B detection input.
65	A-SHUT	I	Deck-A Reel table signal input.
66	A-PLAY	I	Deck-A PLAY Switch input. "H" : PLAY
67	A-HALF	I	Deck-A HALF SW input.
68	CAPM H/L	O	Capstan motor speed selector. "H" : Normal speed "L" : High speed
69	CAPM ON/OFF	O	Capstan motor ON/OFF. "L" : ON
70	TRIG H/L	O	Trigger motor control output.
71	B TRG	O	
72	A TRG	O	
73	RELAY	O	Control output to REC/PB select switch. (IC602)
74	A/B	O	Dolby IC PB input Deck A/B select output. "L" : A, "H" : B
75	NORM/HIGH	O	EQ Select switch output for normal/high speed. "H" : High speed
76	BIAS ON/OFF	O	BIAS Oscillation ON/OFF control. "H" : ON
77	RM ON/OFF	O	REC Mute output. "L" :MUTE
78	REC/PB	O	DOLBY IC REC/PLAY Select output. "H" : REC
79	NR	O	DOLBY ON/OFF Control output. "H" : ON
80	LM	O	LINE Mute output. "L" : MUTE
81	PASS	O	PASS Amplifier switch output to DOLBY IC. (IC401)
82	CDG. MUTE	–	Not used. (OPEN)
83	UP MOTOR	–	Not used. (OPEN)
84	DOWN MOTOR	–	Not used. (OPEN)
85	TABLE R	–	Not used. (OPEN)
86	TABLE L	–	Not used. (OPEN)
87	LOAD OUT	O	Loading motor (M903) Load out output.
88	LOAD IN	O	Loading motor (M903) Load in output.
89	DF-LATCH	O	Latch output to digital filter. (PCM1701U)

Pin No.	Pin name	I/O	Description
90	XLT	O	Serial data latch output to DSP. (CDX2507AQ)
91	FOCUS SW	O	High-region gain down output to focus servo. (CXA1782BQ)
92	HIGH DUBB	–	Not used. ("H" LEVEL)
93	TEST 1	–	Not used. ("H" LEVEL)
94	OUT SW	I	CD Tray output detection input.
95	IN SW	I	CD Tray input detection terminal.
96	UP SW	–	Not used. (GND)
97	PANEL SW	–	Not used. (GND)
98	CLOSE SW	–	Not used. (GND)
99	OPEN SW	–	Not used. (GND)
100	VDD	–	Power supply. (+5V)

IC110 M34225M1-294FP

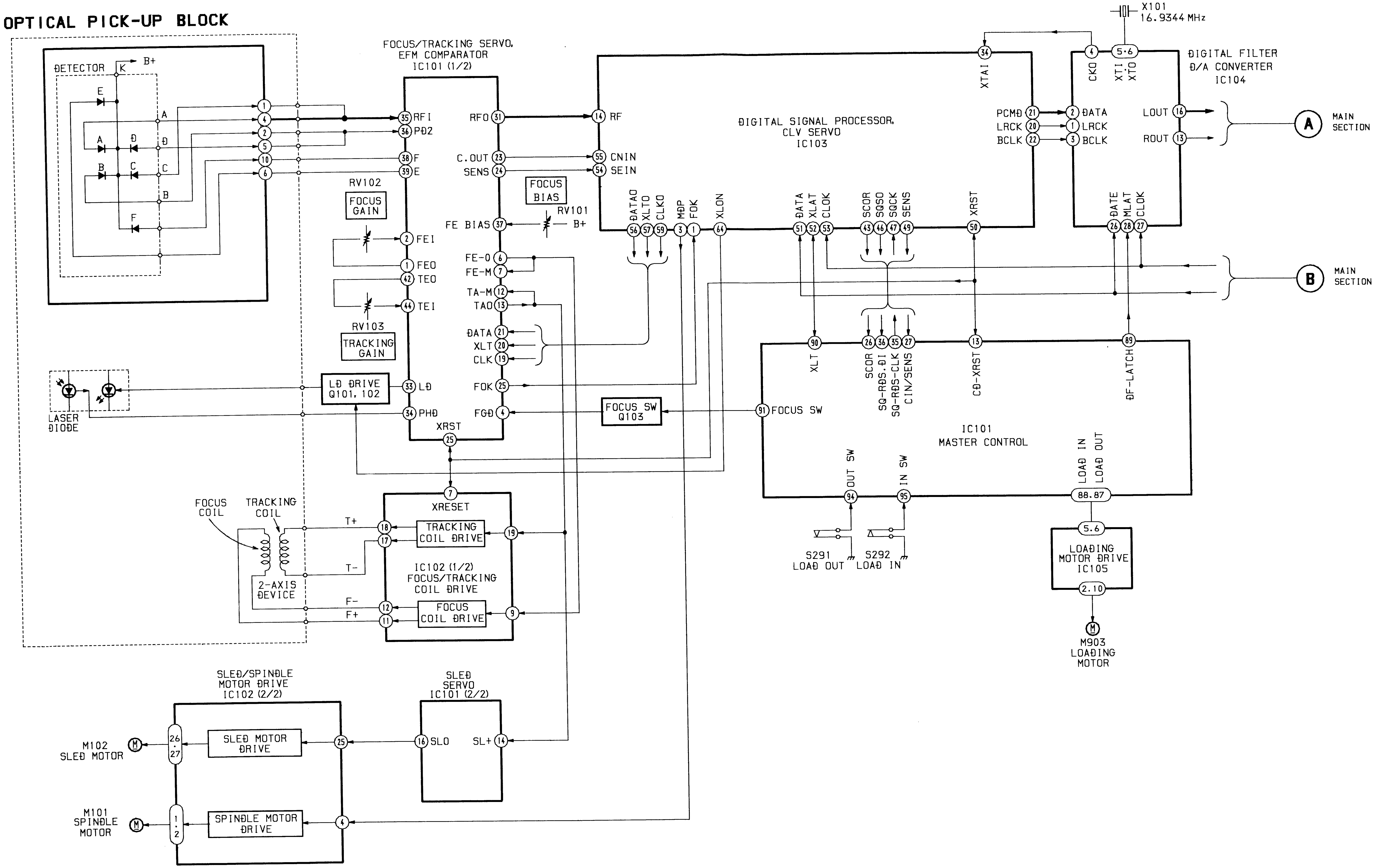
Pin No.	Pin name	I/O	Description
1	RESET	I	Reset signal input terminal.
2	INT	I	Emergency broadcast input.
3	AVSS	–	GND
4	VREF	–	+5V
5	SELECT	–	Not used. (Connected to GND)
6	—	–	Not used. (Connected to GND)
7	AVDD	–	Power supply.
8	S0	–	Not used. (OPEN)
9	—	–	Not used. (OPEN)
10	TEST LED	O	TEST LED Output. "L" : ON
11	URGENT LED	O	WARNING LED Output. "L" : ON
12	STANDBY LED	O	STANDBY LED Output. "L" : ON
13	—	–	Not used. (OPEN)
14	—	–	Not used. (OPEN)
15	STANDBY OK	O	STANDBY OK Signal input.
16	POWER	I	Power on signal input.
17	—	–	Not used. (Connected to GND)
18	Vss	–	GND
19	URGENT SIG.	O	URGENT Signal output.
20 – 25	—	–	Not used. (Connected to GND)
26	—	–	Not used. (OPEN)
27	STANDBY KEY	I	EWS ON/OFF Key input.
28 – 30	—	–	Not used. (Connected to +5V)
31, 32	—	–	Not used. (OPEN)
33	X OUT	O	System clock. (4MHz)
34	X IN	I	
35	CNTR	–	Not used. (Connected to GND)
36	VDD	–	Power supply. (+5V)

IC501 CXP82612-006Q

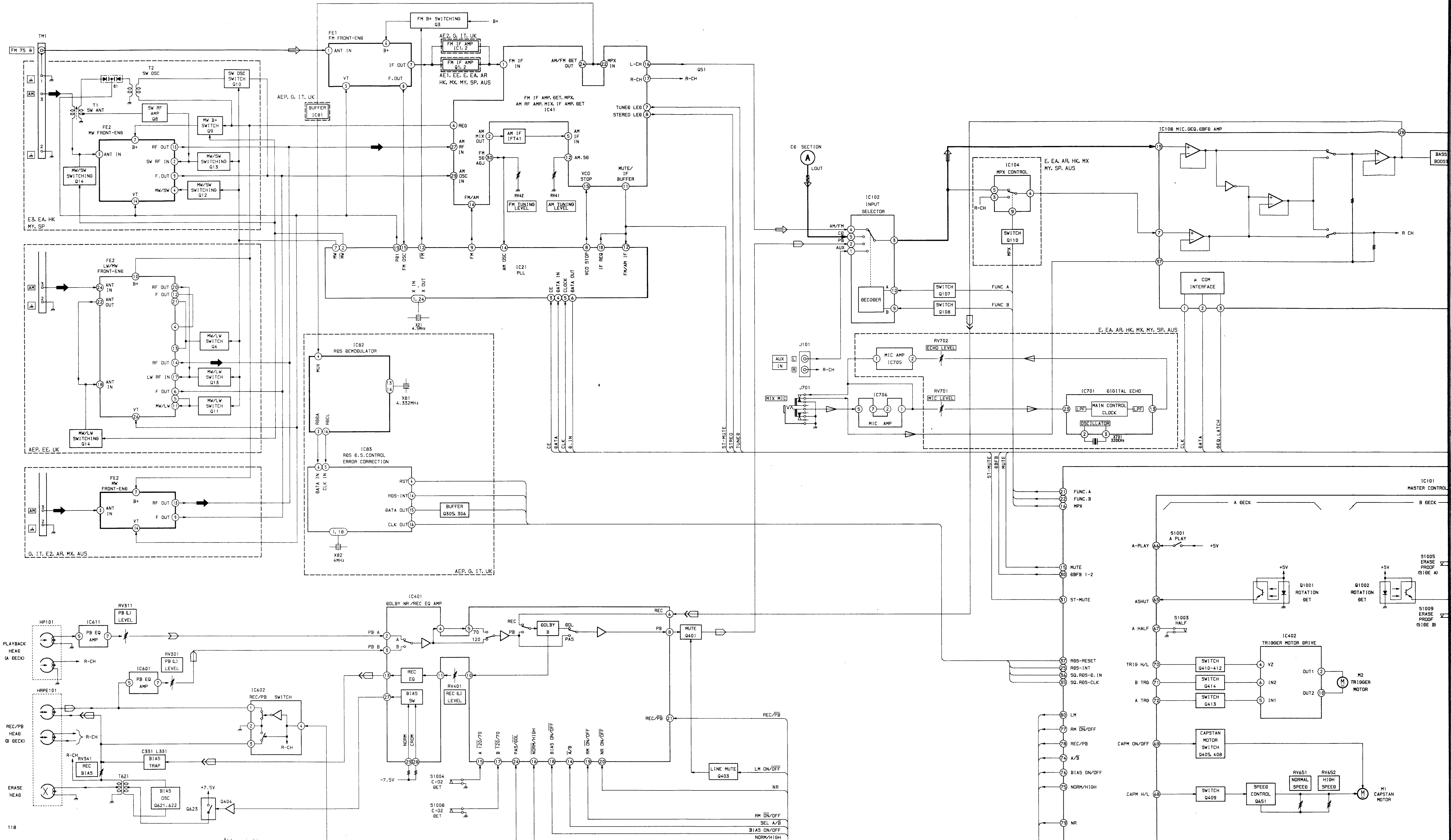
Pin No.	Pin name	I/O	Description
1	ENC1A	I	Volume encoder input terminal.
2	SIRCS	I	Remote commander signal input.
3	REQ. MG	I	Data transmission request input from master control.
4	REQ. GM	O	Data transmission request output to master control.
5	LED1	O	LED DRIVE Output.
6	LED2	O	Not used. (OPEN)
7	LED3	–	Not used. (OPEN)
8	LED4	–	Not used. (OPEN)
9	LED5	O	PLAY, PAUSE LED Output.
10	RDY	I/O	Master control Ready signal input/output. "L" : Ready
11	SCK. IN	I	Clock output for communications with master control.
12	SD. IN	I	Serial data input from master control.
13	SD. OUT	O	Serial data output to master control.
14	LED6	O	REC, PAUSE LED Output.
15	LED7	O	ROCK, USER FILE LED Output.
16	LED8	O	JAZZ, POPS LED Output.
17	LED9	O	CLASSIC, DANCE LED Output.
18	LED10	O	TUNER LED Output.
19	LED11	O	CD, TIMER LED Output.
20	LED12	O	ENTER/NEXT, TUNER/BAND LED Output.
21	LED13	O	A, B LED Output.
22	KEY1	I	Key input. (A/D Converter)
23	KEY2	I	
24	KEY3	I	
25	KEY4	I	
26	BPF1	I	SPEANA Signal input terminal. BPF1 150Hz BPF2 460Hz BPF3 1.5kHz BPF4 6.6kHz
27	BPF2	I	
28	BPF3	I	
29	BPF4	I	
30	$\overline{\text{RST}}$	I	Reset signal input terminal.
31	X IN	I	System clock. (4MHz)
32	X OUT	O	
33	Vss	–	GND
34	AN1	O	LCD Drive.
35	AN2	O	
36	AN3	O	
37	AN4	O	
38	AN5	O	
39	AN6	O	
40	AN7	O	
41	AN8	O	LCD Drive.
42	AN9	O	
43	AN10	O	
44	AN11	O	
45	AN12	O	
46	AN13	O	
47	AN14	O	
48	AN15	O	
49	AN16	O	
50	AN17	O	
51	AN18	O	
52	AN19	O	
53	AN20	O	
54	AN21	O	
55	AN22	O	
56	AN23	O	
57	AN24	O	
58	AN25	O	
59	GR1	O	
60	GR2	O	
61	GR3	O	
62	GR4	O	
63	GR6	O	
64	GR7	O	
65	GR8	O	
66	GR9	O	
67	GR10	O	
68	GR11	O	
69	GR12	O	
70	VFDP	–	LCD Drive – 25V power supply.
71	VDD	–	Power supply. (+5V)
73	POWER KEY	I	System power key input.
74	EZ KEY	I	Not used. (+5V)
75	VDD	–	Power supply. (+5V)
76	LED14	O	Forward play, Revers play LED output.
77	LED15	O	KARAOKE PON LED Output.
78	ENC 2B	I	AMS ENCODER Input terminal.
79	ENC 2A	I	
80	ENC 1B	I	Volume ENCODER input terminal.

SECTION 6
DIAGRAMS

6-1. BLOCK DIAGRAM – CD SECTION –


OPTICAL PICK-UP BLOCK
DETECTOR
B+
K
E
A
D
B
C
F
LASER DIODE
FOCUS COIL
TRACKING COIL
2-AXIS DEVICE
T+
T-
F-
F+
FOCUS/TRACKING SERVO, EFM COMPARATOR IC101 (1/2)
RFI
PD2
F
E
RFO
C.OUT
SENS
FE BIAS
FEI
FEO
TEO
TEI
FE-O
FE-M
TA-M
TAO
DATA
XLT
CLK
FOK
FGD
LD
PHD
XRST
RV102
FOCUS GAIN
RV103
TRACKING GAIN
FOCUS BIAS
RV101
LD DRIVE Q101, 102
FOCUS SW Q103
XRESET
TRACKING COIL DRIVE
IC102 (1/2) FOCUS/TRACKING COIL DRIVE
FOCUS COIL DRIVE
SLED/SPINDLE MOTOR DRIVE IC102 (2/2)
SLED MOTOR DRIVE
SPINDLE MOTOR DRIVE
M102 SLED MOTOR
M101 SPINDLE MOTOR
SLED SERVO IC101 (2/2)
SLO
SL+
DIGITAL SIGNAL PROCESSOR, CLV SERVO IC103
RF
CNIN
SEIN
DATAO
XLTO
CLKO
MDP
FOK
XLON
DATA
XLAT
CLOK
SCOR
SQSO
SQCK
SENS
XRST
XTAI
PCMD
LRCK
BCLK
X101 16.9344 MHz
DIGITAL FILTER D/A CONVERTER IC104
CKO
XTI
XTO
DATA
LRCK
BCLK
LOUT
ROUT
DATE
MLAT
CLOK
A MAIN SECTION
B MAIN SECTION
IC101 MASTER CONTROL
XLT
SCOR
SQ-RDS.DI
SQ-RDS-CLK
CIN/SENS
CD-XRST
DF-LATCH
FOCUS SW
OUT SW
IN SW
LOAD IN
LOAD OUT
88.87
S291 LOAD OUT
S292 LOAD IN
5.6
LOADING MOTOR DRIVE IC105
2.10
M903 LOADING MOTOR

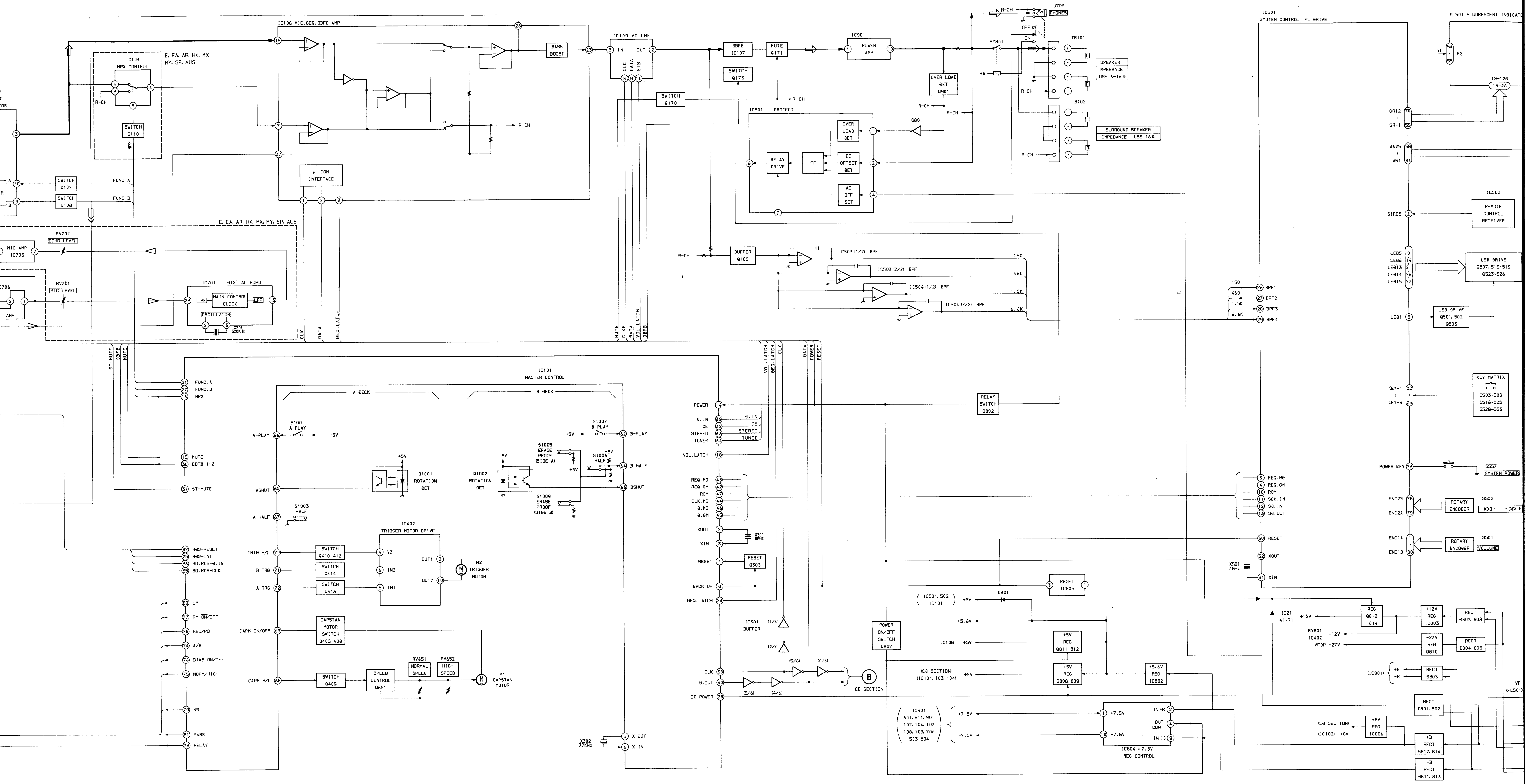
6-2. BLOCK DIAGRAM – MAIN SECTION –

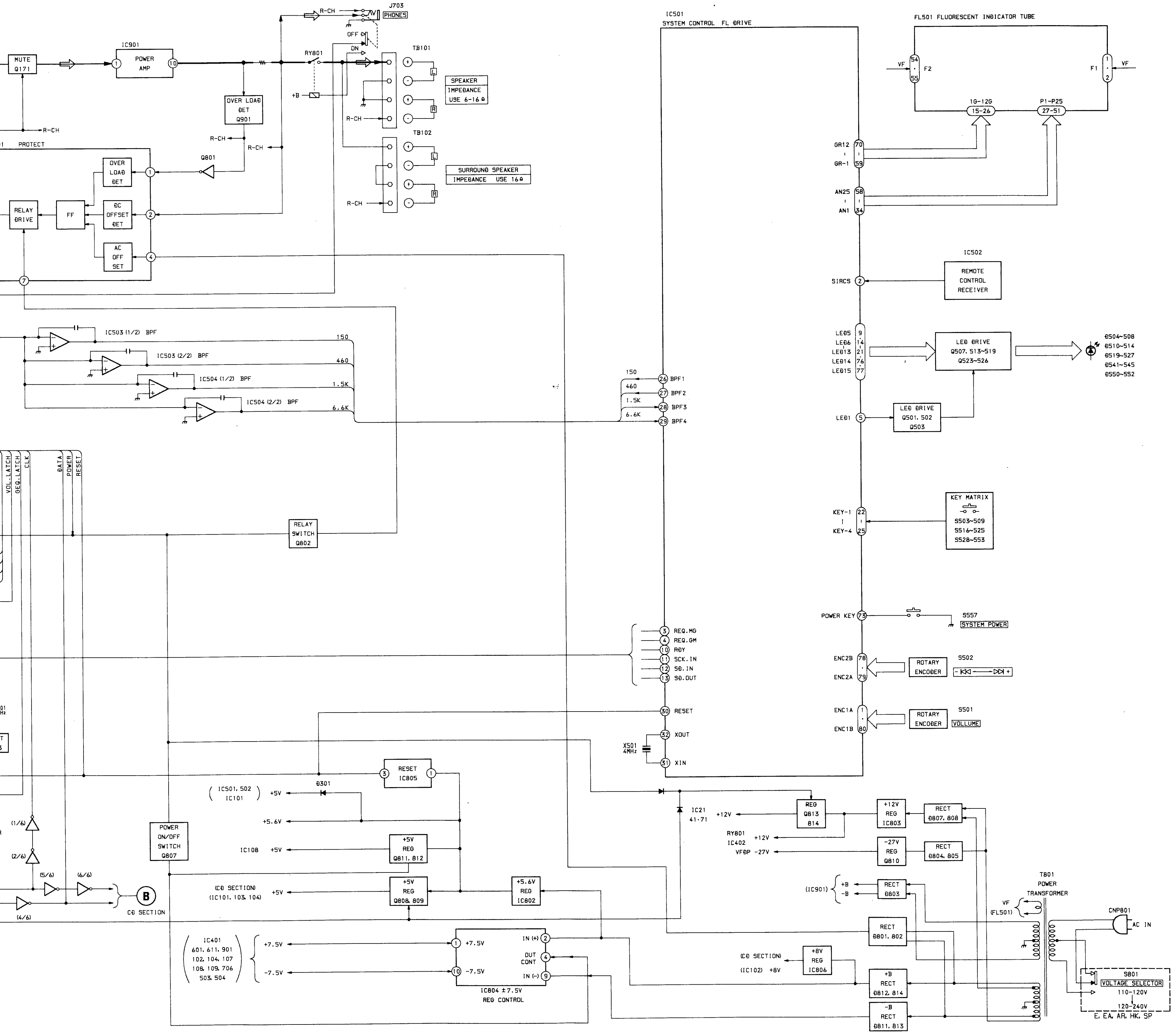

TM1
FM 75 Ω
AM
T2 SW OSC
T1 SW ANT
SW OSC SWITCH Q10
SW RF AMP Q8
MW B+ SWITCH Q9
FE2 MW FRONT-END
ANT IN
RF OUT
SW RF IN
F.OUT
MW/SW
VT
B+
MW/SW SWITCHING Q13
MW/SW SWITCHING Q12
MW/SW SWITCHING Q14
E3, EA, HK MY, SP
FE1 FM FRONT-END
FM B+ SWITCHING Q3
B+
IF OUT
AE2, G, IT, UK
FM IF AMP IC1, 2
FM IF AMP Q1, 2
AE1, EE, E, EA, AR HK, MX, MY, SP, AUS
AEP, G, IT, UK
BUFFER IC81
FM IF IN
AM/FM DET OUT
MPX IN
L-CH
R-CH
Q51
TUNED LED
STEREO LED
FM IF AMP, DET, MPX, AM RF AMP, MIX, IF AMP, DET IC41
REG
AM RF IN
AM OSC IN
AM MIX OUT
AM IF IFT41
AM IF IN
FM SD ADJ
AM SD
RV42 FM TUNING LEVEL
RV41 AM TUNING LEVEL
VCO STOP
MUTE/IF BUFFER
FM/AM
IC21 PLL
MW
PD
FM OSC
FM
AM OSC
VCO STOP
IF REQ
FM/AM IF
X IN
X OUT
X21 4.5MHz
CE
DATA IN
CLOCK
DATA OUT
FE2 LW/MW FRONT-END
MW/LW SWITCH Q4
MW/LW SWITCH Q13
MW/LW SWITCH Q11
MW/LW SWITCHING Q14
LW RF IN
AEP, EE, UK
IC82 RDS DEMODULATOR
MUX
X81 4.332MHz
RDDA
RDCL
IC83 RDS D.S.CONTROL ERROR CORRECTION
DATA IN
CLK IN
RST
RDS-INT
DATA OUT
CLK OUT
BUFFER Q305, 306
X82 4MHz
AEP, G, IT, UK
FE2 MW FRONT-END
G, IT, E2, AR, MX, AUS
ST-MUTE
STEREO
TUNED
CD SECTION
A
LOUT
IC102 INPUT SELECTOR
AM/FM
CD
PB
AUX
DECODER
SWITCH Q107
SWITCH Q108
FUNC A
FUNC B
IC104 MPX CONTROL
E, EA, AR, HK, MX MY, SP, AUS
SWITCH Q110
MPX
IC108 MIC.DEQ.DBFB AMP
BASS BOOST
R CH
µ COM INTERFACE
E, EA, AR, HK, MX, MY, SP, AUS
J101
AUX IN
RV702 ECHO LEVEL
MIC AMP IC705
J701
MIX MIC
VX
IC706 MIC AMP
RV701 MIC LEVEL
IC701 DIGITAL ECHO
LPF
MAIN CONTROL CLOCK
OSCILLATOR
X701 32MHz
CLK
DATA
DEQ.LATCH
ST-MUTE
DBFB
MUTE
IC101 MASTER CONTROL
FUNC.A
FUNC.B
MPX
MUTE
DBFB 1-2
ST-MUTE
RDS-RESET
RDS-INT
SQ.RDS-D.IN
SQ.RDS-CLK
LM
RM ON/OFF
REC/PB
A/B
BIAS ON/OFF
NORM/HIGH
NR
PASS
RELAY
A DECK
B DECK
S1001 A PLAY
A-PLAY
+5V
ASHUT
Q1001 ROTATION DET
Q1002 ROTATION DET
S1005 ERASE PROOF (SIDE A)
S1009 ERASE PROOF (SIDE B)
S1003 HALF
A HALF
IC402 TRIGGER MOTOR DRIVE
TRIG H/L
B TRG
A TRG
SWITCH Q410-412
SWITCH Q414
SWITCH Q413
VZ
IN2
IN1
OUT1
OUT2
M2 TRIGGER MOTOR
CAPM ON/OFF
CAPSTAN MOTOR SWITCH Q405, 408
CAPM H/L
SWITCH Q409
SPEED CONTROL Q651
RV651 NORMAL SPEED
RV652 HIGH SPEED
M1 CAPSTAN MOTOR
HP101
PLAYBACK HEAD (A DECK)
IC611 PB EQ AMP
RV311 PB (L) LEVEL
R-CH
IC601 PB EQ AMP
RV301 PB (L) LEVEL
HRPE101
REC/PB HEAD (B DECK)
IC602 REC/PB SWITCH
RV341 REC BIAS
C331 L331 BIAS TRAP
T621
ERASE HEAD
BIAS OSC Q621, 622
+7.5V
Q623
Q404
IC401 DOLBY NR/REC EQ AMP
PB A
PB B
REC
PB
70
120
DOLBY B
DOL
PAS
MUTE Q401
REC EQ
BIAS SW
RV401 REC (L) LEVEL
NORM
CROM
-7.5V
A 120/70
B 120/70
PAS/DOL
NORM/HIGH
BIAS ON/OFF
A/B
RM ON/OFF
NR ON/OFF
S1004 CrO2 DET
S1008 CrO2 DET
REC/PB
LINE MUTE Q403
LM ON/OFF
NR
RM ON/OFF
SEL A/B
BIAS ON/OFF
NORM/HIGH
PASS
118

Signal Path

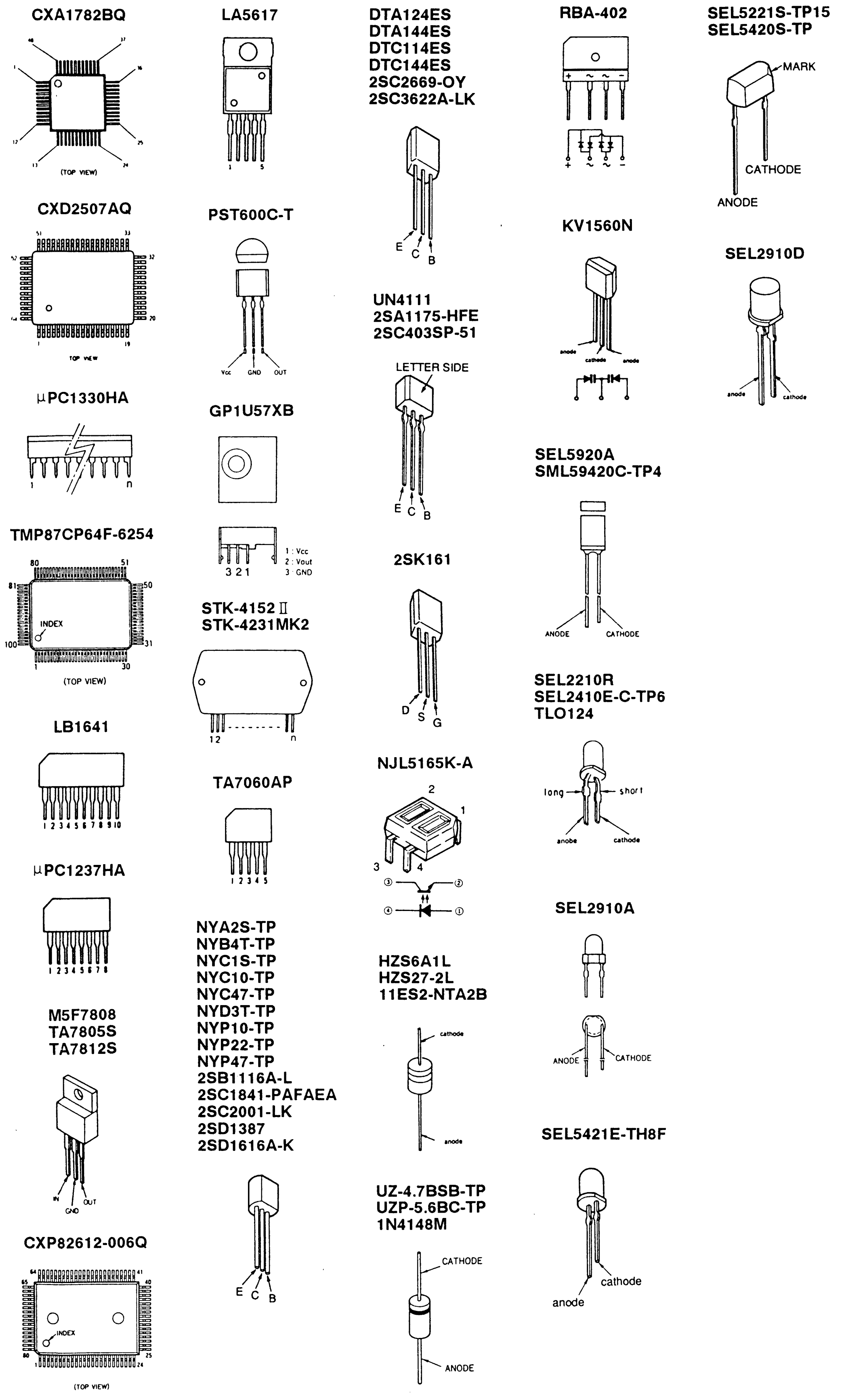
⇨ :FM
➡ :AM
⇨ :CD
▷ :DECK-A PLAY
▷ :DECK-B PLAY
▷ :DECK-B REC
▷ :MIC

Abbreviations
G :German model.
IT :Italian model.
EE :East European model.
EA :Saudi Arabia model.
AR :Argentine
HK :Hong Kong
MX :Mexican
MY :Malaysia model.
SP :Singapore model.
AUS:Australian model.

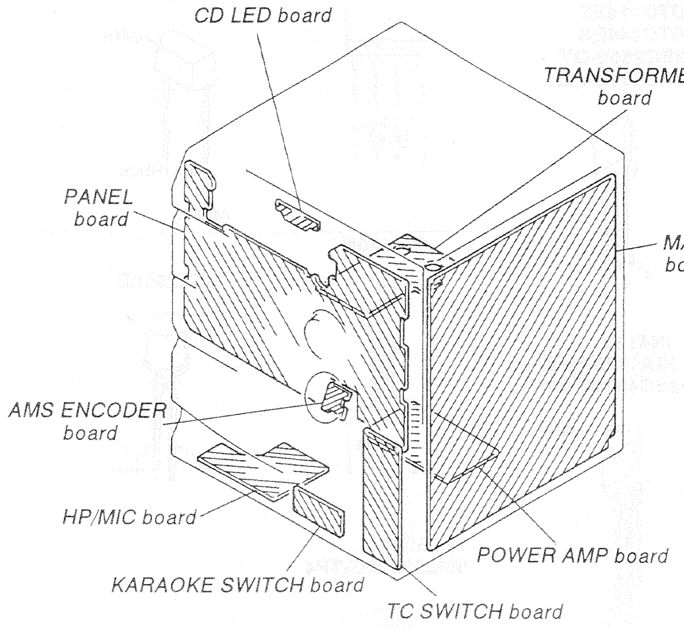

IC108 MIC.GEQ.DBFB AMP
IC104 MPX CONTROL
E, EA, AR, HK, MX MY, SP, AUS
SWITCH Q110
MPX
R-CH
R CH
BASS BOOST
IC109 VOLUME
IN OUT
CLK DATA STB
DBFB IC107
SWITCH Q173
MUTE Q171
SWITCH Q170
IC901 POWER AMP
OVER LOAD DET Q901
J703 PHONES
RY801
OFF ON
TB101
SPEAKER IMPEDANCE USE 6-16Ω
TB102
SURROUND SPEAKER IMPEDANCE USE 16Ω
IC801 PROTECT
OVER LOAD DET
DC OFFSET DET
AC OFF SET
RELAY DRIVE
FF
Q801
μ COM INTERFACE
SWITCH Q107
SWITCH Q108
FUNC A
FUNC B
E, EA, AR, HK, MX, MY, SP, AUS
RV702 ECHO LEVEL
MIC AMP IC705
IC706
RV701 MIC LEVEL
AMP
IC701 DIGITAL ECHO
LPF MAIN CONTROL CLOCK LPF
OSCILLATOR
X701 320kHz
CLK DATA GEQ.LATCH
MUTE CLK DATA VOL.LATCH DBFB
BUFFER Q105
IC503 (1/2) BPF
IC503 (2/2) BPF
IC504 (1/2) BPF
IC504 (2/2) BPF
150 460 1.5K 6.6K
ST-MUTE DBFB MUTE
VOL.LATCH GEQ.LATCH CLK
DATA POWER RESET
IC101 MASTER CONTROL
A DECK
B DECK
FUNC.A FUNC.B MPX
S1001 A PLAY
A-PLAY
+5V
S1002 B PLAY
B-PLAY
S1005 ERASE PROOF (SIDE A)
S1006 HALF
B HALF
Q1001 ROTATION DET
Q1002 ROTATION DET
ASHUT
BSHUT
S1009 ERASE PROOF (SIDE B)
S1003 HALF
A HALF
MUTE
DBFB 1-2
ST-MUTE
IC402 TRIGGER MOTOR DRIVE
TRIG H/L
SWITCH Q410-412
B TRG
SWITCH Q414
A TRG
SWITCH Q413
VZ IN2 IN1 OUT1 OUT2
M2 TRIGGER MOTOR
RDS-RESET
RDS-INT
SQ.RDS-D.IN
SQ.RDS-CLK
LM
RM ON/OFF
REC/PB
A/B
BIAS ON/OFF
NORM/HIGH
NR
PASS
RELAY
CAPM ON/OFF
CAPSTAN MOTOR SWITCH Q405, 408
CAPM H/L
SWITCH Q409
SPEED CONTROL Q651
RV651 NORMAL SPEED
RV652 HIGH SPEED
M1 CAPSTAN MOTOR
X302 32KHz
X OUT
X IN
POWER
D.IN CE STEREO TUNED
VOL.LATCH
REQ.MD REQ.DM RDY CLK.MD D.MD D.DM
XOUT
X301 8MHz
XIN
RESET
RESET Q303
BACK UP
GEQ.LATCH
IC301 BUFFER
(1/6) (2/6) (3/6) (4/6) (5/6) (6/6)
CLK
D.OUT
CD.POWER
B
CD SECTION
POWER ON/OFF SWITCH Q807
RELAY SWITCH Q802
RESET IC805
D301
(IC501, 502 IC101) +5V
+5.6V
IC108 +5V
+5V REG Q811, 812
(CD SECTION) (IC101, 103, 104) +5V
+5V REG Q808, 809
+5.6V REG IC802
(IC401 601, 611, 901 102, 104, 107 108, 109, 706 503, 504)
+7.5V
-7.5V
IC804 ±7.5V REG CONTROL
IN (+) OUT CONT IN (-)
IC501 SYSTEM CONTROL FL DRIVE
FL501 FLUORESCENT INDICATO
VF F2
1G-12G 15-26
DR12 DR-1
AN25 AN1
IC502 REMOTE CONTROL RECEIVER
SIRCS
LED5 LED6 LED13 LED14 LED15
LED DRIVE Q507, 513-519 Q523-526
LED1
LED DRIVE Q501, 502 Q503
BPF1 BPF2 BPF3 BPF4
KEY MATRIX
S503-509 S516-525 S528-553
KEY-1 KEY-4
POWER KEY
S557 SYSTEM POWER
REQ.MD REQ.DM RDY SCK.IN SD.IN SD.OUT
ENC2B ENC2A
ROTARY ENCODER
S502
ENC1A ENC1B
S501 VOLUME
RESET XOUT XIN
X501 4MHz
IC21 41-71
+12V
REG Q813 814
+12V REG IC803
RECT D807, 808
RY801 IC402 +12V
VFDP -27V
-27V REG Q810
RECT D804, 805
(IC901) +B -B
RECT D803
RECT D801, 802
(CD SECTION) (IC102) +8V
+8V REG IC806
+B RECT D812, 814
-B RECT D811, 813
VF (FL501)

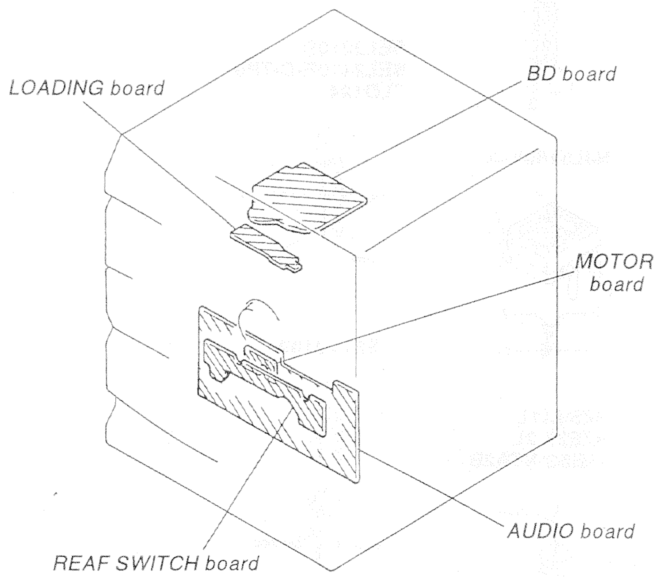

MUTE Q171
IC901 POWER AMP
OVER LOAD DET Q901
RY801
J703 PHONES
R-CH
OFF
ON
TB101
SPEAKER IMPEDANCE USE 6-16Ω
TB102
SURROUND SPEAKER IMPEDANCE USE 16Ω
PROTECT
Q801
OVER LOAD DET
DC OFFSET DET
AC OFF SET
RELAY DRIVE
FF
IC503 (1/2) BPF
IC503 (2/2) BPF
IC504 (1/2) BPF
IC504 (2/2) BPF
150
460
1.5K
6.6K
VOL.LATCH
DEQ.LATCH
CLK
DATA
POWER
RESET
RELAY SWITCH Q802
IC501 SYSTEM CONTROL FL DRIVE
FL501 FLUORESCENT INDICATOR TUBE
VF
F2
F1
1G-12G 15-26
P1-P25 27-51
GR12
GR-1
AN25
AN1
SIRCS
IC502 REMOTE CONTROL RECEIVER
LED5
LED6
LED13
LED14
LED15
LED DRIVE Q507, 513-519 Q523-526
D504-508 D510-514 D519-527 D541-545 D550-552
LED1
LED DRIVE Q501, 502 Q503
BPF1
BPF2
BPF3
BPF4
KEY-1
KEY-4
KEY MATRIX S503-509 S516-525 S528-553
POWER KEY
S557 SYSTEM POWER
REQ.MG
REQ.GM
RDY
SCK.IN
SO.IN
SO.OUT
ENC2B
ENC2A
ROTARY ENCODER
S502
ENC1A
ENC1B
S501 VOLUME
RESET
XOUT
XIN
X501 4MHz
RESET IC805
D301
IC501, 502 IC101 +5V
+5.6V
IC108 +5V
+5V REG Q811, 812
CD SECTION (IC101, 103, 104) +5V
+5V REG Q808, 809
+5.6V REG IC802
POWER ON/OFF SWITCH Q807
CD SECTION
IC21 41-71 +12V
REG Q813 814
RY801 IC402 +12V
VFDP -27V
+12V REG IC803
RECT D807, 808
-27V REG Q810
RECT D804, 805
(IC901) +B -B
RECT D803
RECT D801, 802
TB01 POWER TRANSFORMER
VF (FL501)
CNP801 AC IN
S801 VOLTAGE SELECTOR 110-120V 120-240V
E, EA, AR, HK, SP
IC401 601, 611, 901 102, 104, 107 108, 109, 706 503, 504
+7.5V
-7.5V
IC804 ±7.5V REG CONTROL
IN (+)
OUT CONT
IN (-)
CD SECTION (IC102) +8V
+8V REG IC806
+B RECT Q812, 814
-B RECT Q811, 813

• SEMICONDUCTOR LEAD LAYOUTS


CXA1782BQ
(TOP VIEW)
LA5617
DTA124ES
DTA144ES
DTC114ES
DTC144ES
2SC2669-OY
2SC3622A-LK
E C B
RBA-402
SEL5221S-TP15
SEL5420S-TP
MARK
CATHODE
ANODE
CXD2507AQ
TOP VIEW
PST600C-T
Vcc GND OUT
KV1560N
anode cathode anode
SEL2910D
anode cathode
UN4111
2SA1175-HFE
2SC403SP-51
LETTER SIDE
E C B
µPC1330HA
GP1U57XB
1 : Vcc
2 : Vout
3 : GND
SEL5920A
SML59420C-TP4
TMP87CP64F-6254
INDEX
(TOP VIEW)
STK-4152 Ⅱ
STK-4231MK2
2SK161
D S G
ANODE CATHODE
LB1641
SEL2210R
SEL2410E-C-TP6
TLO124
long short
anode cathode
NJL5165K-A
TA7060AP
µPC1237HA
SEL2910A
ANODE CATHODE
M5F7808
TA7805S
TA7812S
IN GND OUT
NYA2S-TP
NYB4T-TP
NYC1S-TP
NYC10-TP
NYC47-TP
NYD3T-TP
NYP10-TP
NYP22-TP
NYP47-TP
2SB1116A-L
2SC1841-PAFAEA
2SC2001-LK
2SD1387
2SD1616A-K
E C B
HZS6A1L
HZS27-2L
11ES2-NTA2B
cathode
anode
SEL5421E-TH8F
anode cathode
CXP82612-006Q
INDEX
(TOP VIEW)
UZ-4.7BSB-TP
UZP-5.6BC-TP
1N4148M
CATHODE
ANODE

6-3. CIRCUIT BOARD LOCATION


CD LED board
TRANSFORMER board
PANEL board
MAIN board
AMS ENCODER board
HP/MIC board
POWER AMP board
KARAOKE SWITCH board
TC SWITCH board


LOADING board
BD board
MOTOR board
AUDIO board
REAF SWITCH board

• SEMICONDUCTOR LOCATION

Ref. No.	Location	Ref. No.	Location
D21	A - 12	IC402	J - 10
D41	E - 11	IC701	E - 4
D82	B - 10	IC705	C - 5
D101	F - 11	IC706	C - 5
D102	E - 14	IC801	H - 13
D103	G - 15	IC802	K - 13
D104	H - 10	IC803	J - 13
D105	H - 9	IC804	L - 13
D106	H - 9	IC805	G - 10
D107	F - 14	IC806	L - 15
D301	F - 10	IC901	C - 20
D302	G - 10		
D304	G - 9		
D305	F - 10	Q3	B - 14
D401	J - 11	Q11	C - 14
		Q12	B - 15
D402	H - 7	Q13	B - 15
D801	I - 13	Q14	C - 15
D802	I - 13		
D803	I - 14	Q105	D - 16
D804	K - 15	Q107	G - 11
		Q108	H - 11
D805	K - 16	Q110	F - 11
D806	K - 16	Q170	F - 9
D807	J - 14		
D808	J - 14	Q171	E - 14
D809	H - 13	Q172	D - 14
		Q173	F - 14
D810	H - 13	Q174	F - 15
D811	J - 13	Q303	G - 9
D812	J - 13		
D813	J - 13	Q305	F - 9
D814	G - 10	Q306	F - 9
		Q401	L - 11
D815	G - 10	Q403	J - 10
D817	I - 12	Q404	L - 10
D819	F - 10		
D823	K - 13	Q405	J - 10
D824	K - 12	Q406	J - 9
		Q407	J - 10
D901	B - 19	Q408	J - 9
D902	A - 21	Q409	J - 9
D903	B - 22		
D951	B - 21	Q410	J - 10
		Q411	J - 9
		Q412	J - 9
IC1	B - 14	Q413	J - 9
IC2	B - 13	Q414	J - 9
IC21	B - 12		
IC41	D - 12	Q451	L - 10
IC81	C - 9	Q801	H - 12
		Q802	I - 12
IC82	B - 9	Q807	L - 13
IC83	B - 10	Q808	J - 12
IC101	G - 8		
IC102	G - 12	Q809	J - 12
IC104	F - 12	Q810	K - 16
		Q811	K - 12
IC105	F - 11	Q812	K - 12
IC107	E - 14	Q813	I - 12
IC108	F - 14		
IC109	D - 15	Q814	I - 12
IC301	D - 8	Q901	C - 19
		Q951	C - 22
IC401	K - 8		

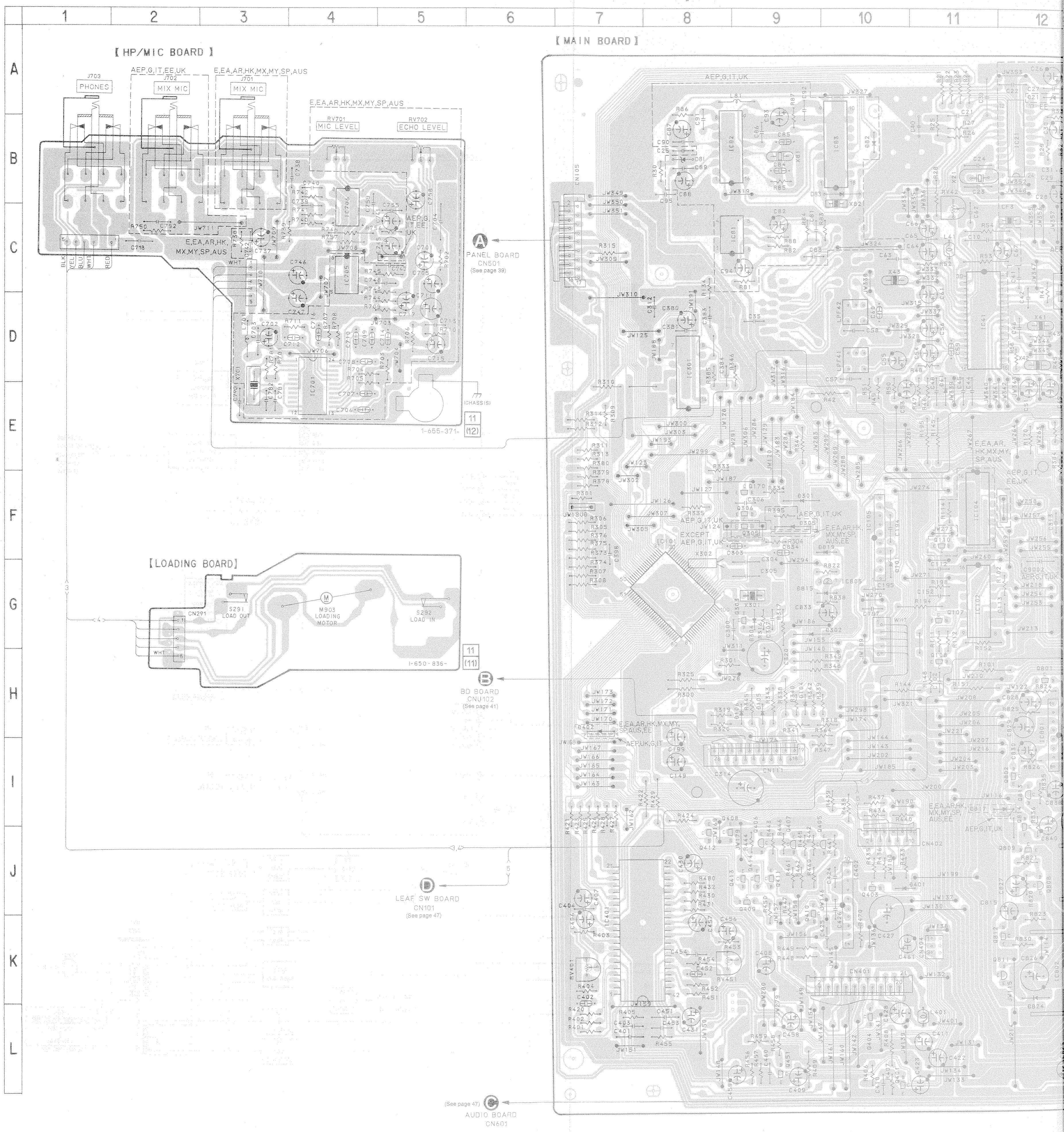
Note:

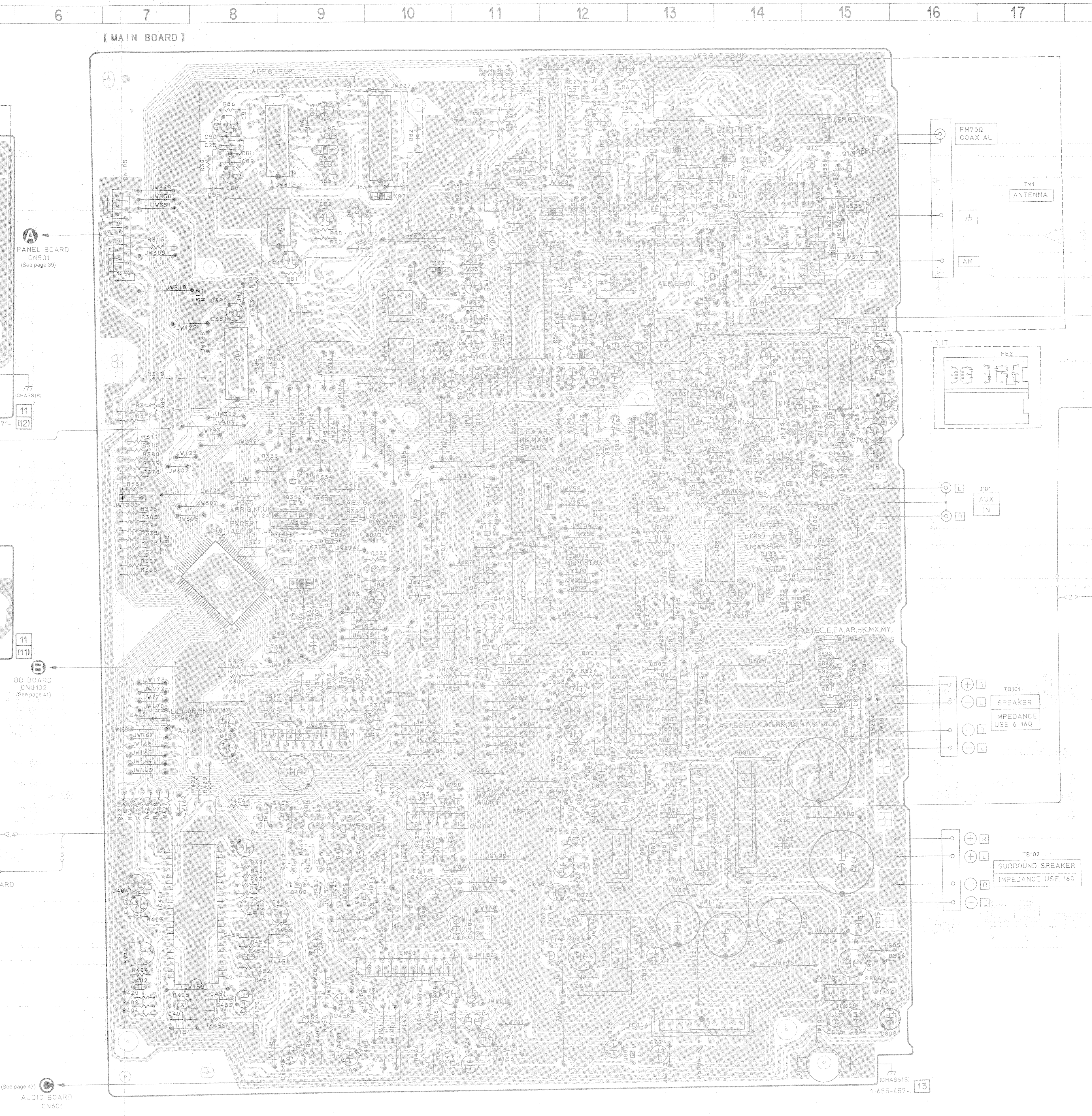
- ○— : parts extracted from the component side.
- ▨ : Pattern on the side which is seen.
- Abbreviations

G	: German
IT	: Italian
AUS	: Australian
EA	: Saudi Arabia
EE	: East European
AR	: Argentine
HK	: Hong Kong
MX	: Mexican
MY	: Malaysia
SP	: Singapore

6-4. PRINTED WIRING BOARDS – MAIN SECTION –

• Refer to page 24 for Semiconductor Lead Layouts.


1
2
3
4
5
6
7
8
9
10
11
12
A
B
C
D
E
F
G
H
I
J
K
L
[HP/MIC BOARD]
J703
PHONES
AEP,G,IT,EE,UK
J702
MIX MIC
E,EA,AR,HK,MX,MY,SP,AUS
J701
MIX MIC
E,EA,AR,HK,MX,MY,SP,AUS
RV701
MIC LEVEL
RV702
ECHO LEVEL
E,EA,AR,HK,
MX,MY,SP,AUS
AEP,G,IT,EE,UK
(CHASSIS)
1-655-371-
11
(12)
A
PANEL BOARD
CN501
(See page 39)
[LOADING BOARD]
CN291
S291
LOAD OUT
M903
LOADING
MOTOR
S292
LOAD IN
1-650-836-
11
(11)
B
BD BOARD
CNU102
(See page 41)
3,4
5
D
LEAF SW BOARD
CN101
(See page 47)
(See page 47)
C
AUDIO BOARD
CN601
[MAIN BOARD]
CN105
IC801
IC101
CN111
CN401
E,EA,AR,HK,MX,MY,SP,AUS
AEP,G,IT,UK
EXCEPT AEP,G,IT,UK


6
7
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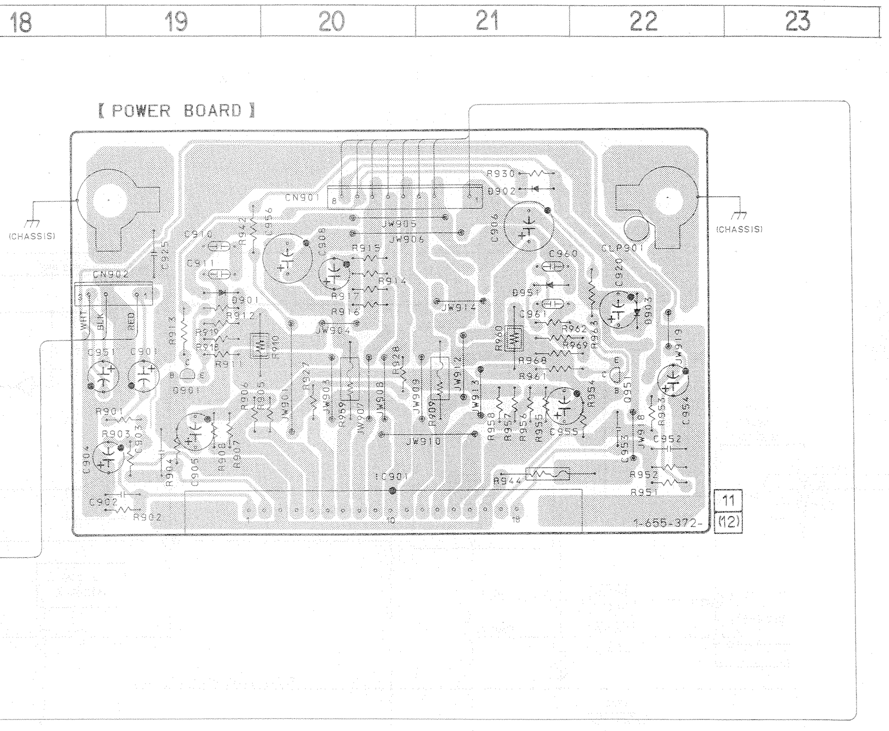
9
10
11
12
13
14
15
16
[MAIN BOARD]
AEP,G,IT,UK
AEP,G,IT,EE,UK
PANEL BOARD
CN501
(See page 39)
(CHASSIS)
BD BOARD
CNU102
(See page 41)
(See page 47)
AUDIO BOARD
CN601
FM75Ω
COAXIAL
TM1
ANTENNA
AM
J101
AUX
IN
L
R
TB101
SPEAKER
IMPEDANCE
USE 6-16Ω
TB102
SURROUND SPEAKER
IMPEDANCE USE 16Ω
E,EA,AR,HK,MX,MY,SP,AUS
AE1,EE,E,EA,AR,HK,MX,MY,SP,AUS
JW851 SP,AUS
AE2,G,IT,UK
G,IT
FE2
(CHASSIS)
1-655-457-
13
11
(12)
(11)


17
18
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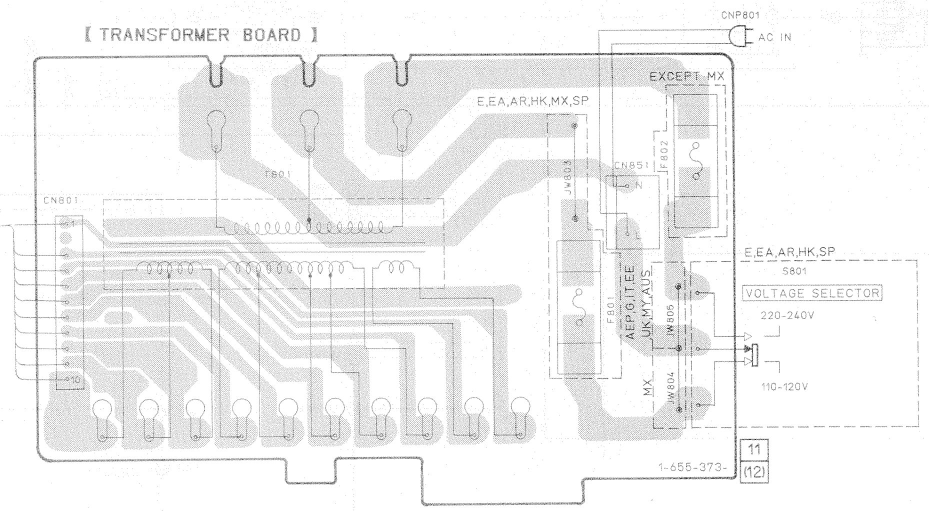
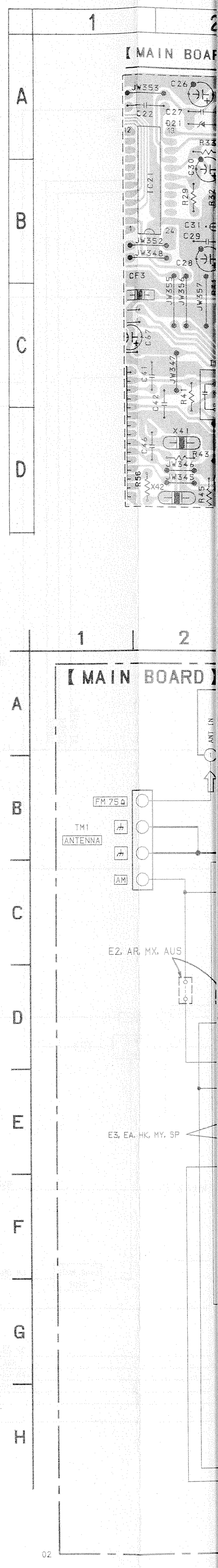
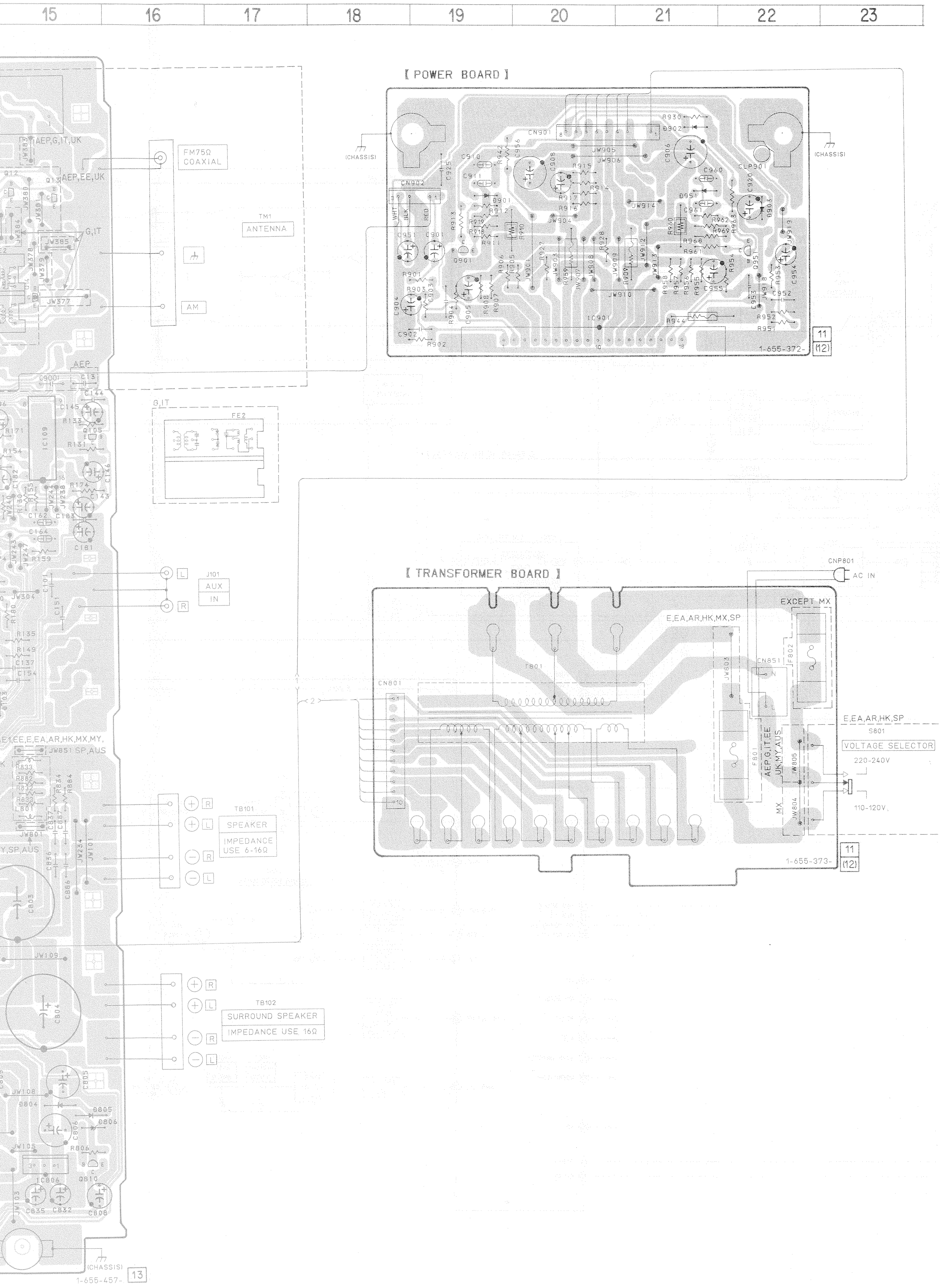
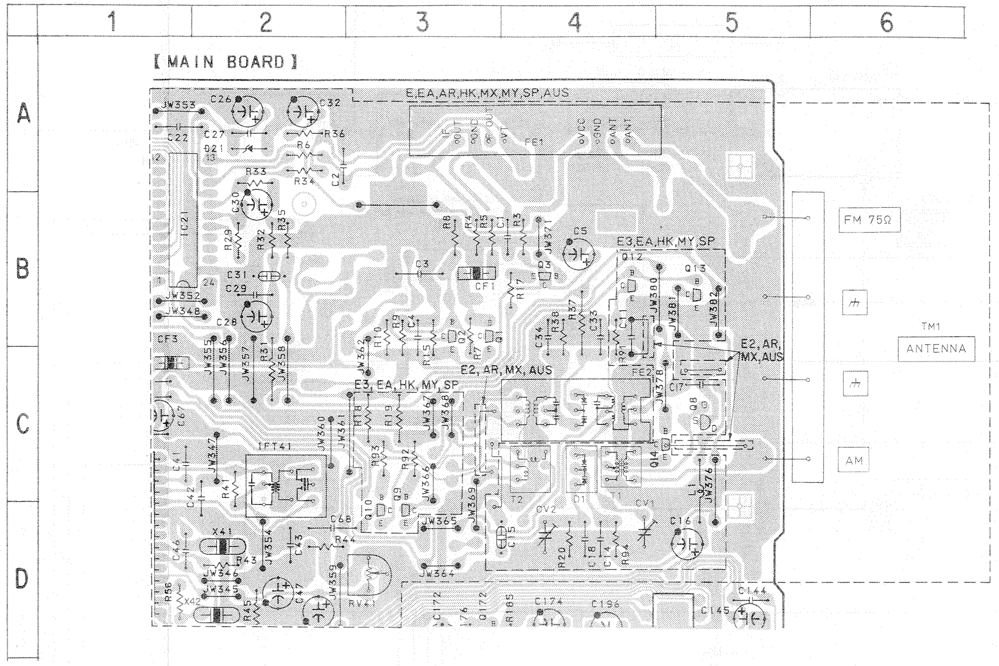
21
22
23
[POWER BOARD]
(CHASSIS)
(CHASSIS)
CN901
CN902
1-655-372-
11
(12)


[TRANSFORMER BOARD]
CNP801
AC IN
EXCEPT MX
E,EA,AR,HK,MX,SP
CN801
E,EA,AR,HK,SP
S801
VOLTAGE SELECTOR
220-240V
110-120V
AEP,G,IT,EE,UK,MY,AUS
MX
1-655-373-
11
(12)

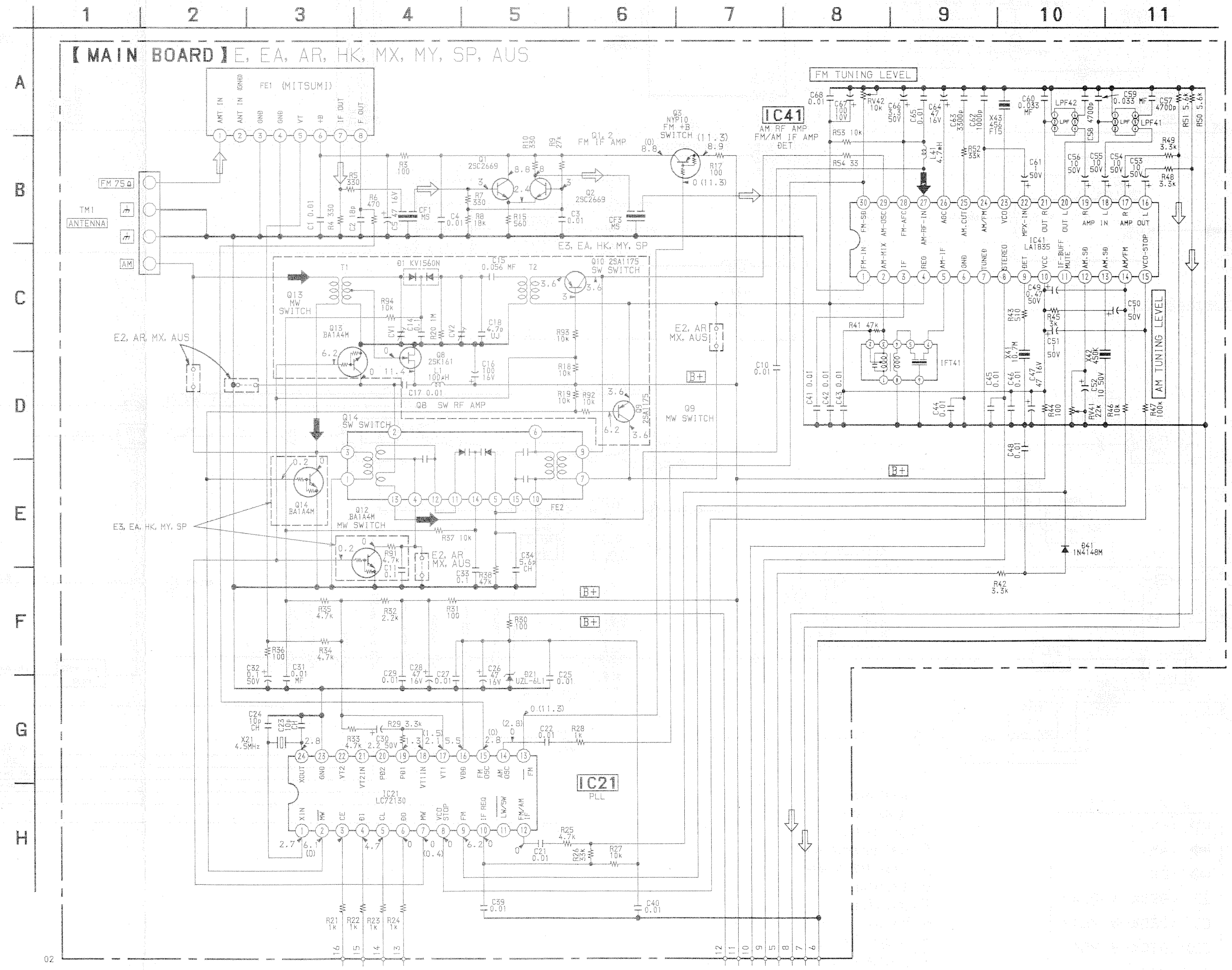

1
2
A
B
C
D
E
F
G
H
[MAIN BOARD]
FM75Ω
TM1
ANTENNA
AM
E2, AR, MX, AUS
E3, EA, HK, MY, SP


[POWER BOARD]
[TRANSFORMER BOARD]
FM75Ω COAXIAL
TM1 ANTENNA
AM
AUX IN
TB101 SPEAKER IMPEDANCE USE 6-16Ω
TB102 SURROUND SPEAKER IMPEDANCE USE 16Ω
CNP801 AC IN
VOLTAGE SELECTOR
220-240V
110-120V
EXCEPT MX
E,EA,AR,HK,MX,SP
(CHASSIS)
1-655-372-
1-655-373-
1-655-457-
11
(12)
13


[MAIN BOARD]
E,EA,AR,HK,MX,MY,SP,AUS
E3,EA,HK,MY,SP
E2,AR,MX,AUS
FM 75Ω
TM1 ANTENNA
AM

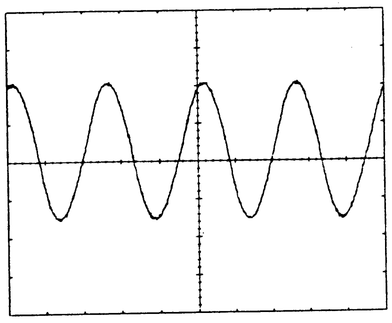
● SEMICONDUCTOR LOCATION

Ref. No.	Location
D1	C - 4
D21	A - 2
IC21	B - 1
Q1	B - 3
Q2	B - 3
Q3	B - 4
Q8	C - 5
Q9	D - 3
Q10	D - 3
Q12	B - 4
Q13	B - 5
Q14	C - 5

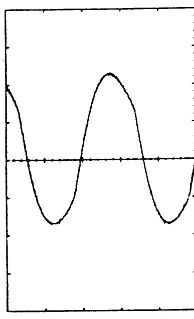

[MAIN BOARD] E, EA, AR, HK, MX, MY, SP, AUS
FE1 (MITSUMI)
IC41 AM RF AMP FM/AM IF AMP DET
IC41 LA1835
FM TUNING LEVEL
AM TUNING LEVEL
Q1 2SC2669
Q2 2SC2669
Q3 MX910 FM +B SWITCH
Q8 2SK161 SW RF AMP
Q9 MW SWITCH
Q13 MW SWITCH
Q14 SW SWITCH
Q12 BA1A4M MW SWITCH
IFT41
FE2
IC21 LC72130 PLL
X21 4.5MHz
D41 1N4148M
E2, AR, MX, AUS
E3, EA, HK, MY, SP

• WAVEFORMS

⑬ IC101 ②pin 3.6Vp-p 8MHz

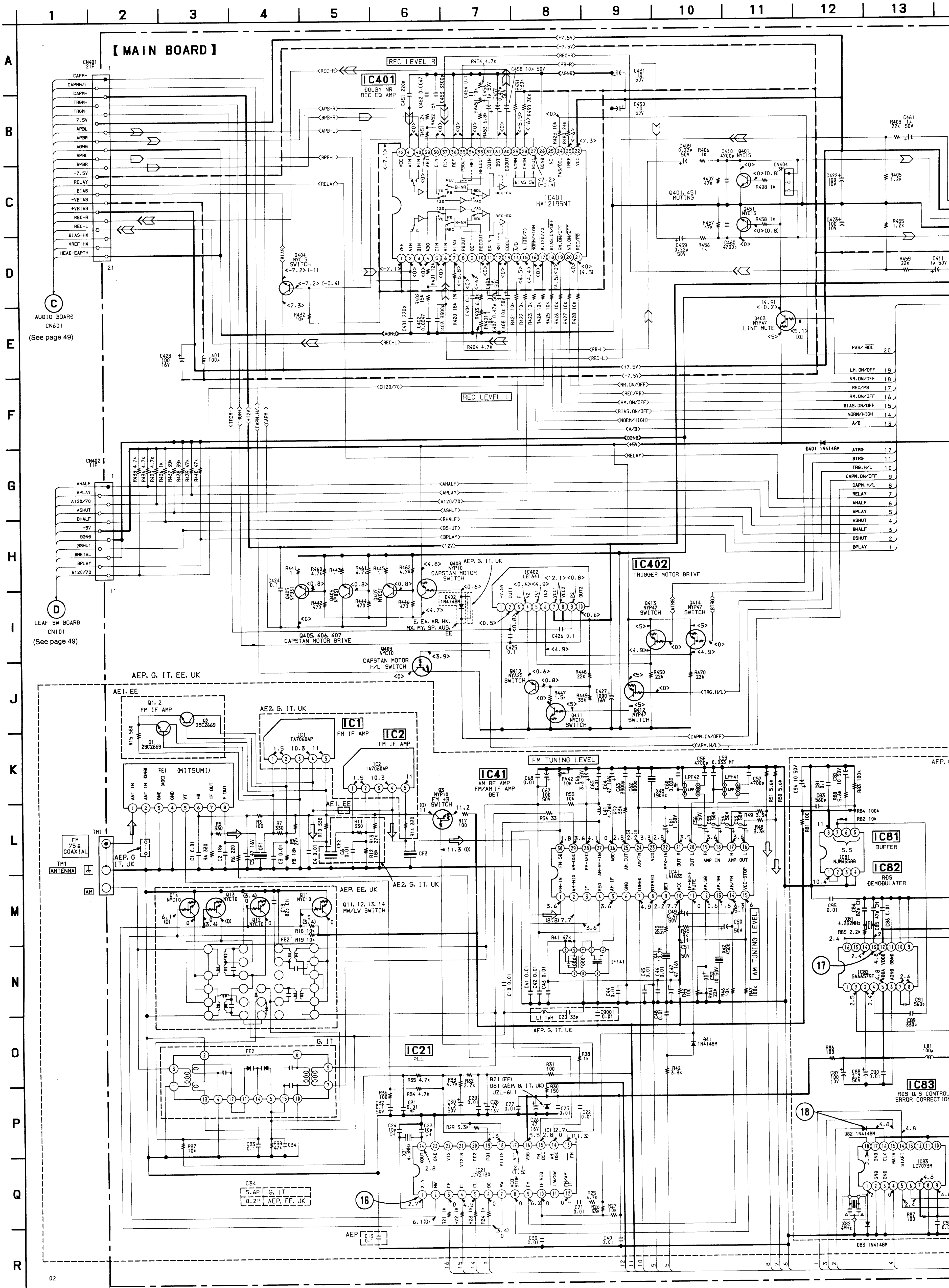


⑭ IC101 ⑤pin 4



6-5. SCHEMATIC DIAGRAM – MAIN SECTION –

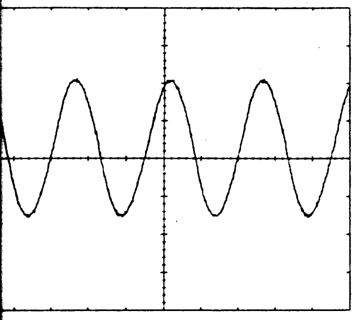
• Refer to page 51 for IC Block Diagrams.



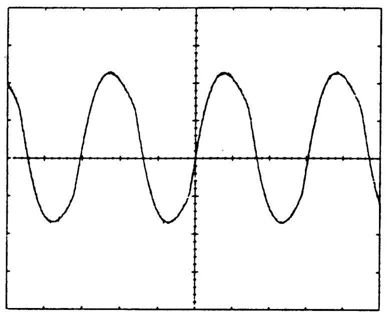
【MAIN BOARD】
IC401 DOLBY NR REC EQ AMP
IC401 HA12195NT
REC LEVEL R
REC LEVEL L
CN401 21P
CN402 11P
AUDIO BOARD CN601 (See page 49)
LEAF SW BOARD CN101 (See page 49)
Q404 NYC15 SWITCH
Q401, 451 MUTING
Q403 NYP47 LINE MUTE
Q405, 406, 407 CAPSTAN MOTOR DRIVE
Q408 NYP10 CAPSTAN MOTOR SWITCH
Q409 NYC10 CAPSTAN MOTOR H/L SWITCH
IC402 TRIGGER MOTOR DRIVE
IC402 LB1641
Q413 NYP47 SWITCH
Q414 NYP47 SWITCH
Q410 NYA2S SWITCH
Q411 NYC10 SWITCH
Q412 NYP47 SWITCH
AEP, G, IT, EE, UK
AE1, EE
Q1, 2 FM IF AMP
AE2, G, IT, UK
IC1 FM IF AMP TA7060AP
IC2 FM IF AMP TA7060AP
FE1 (MITSUMI)
TM1 FM 75Ω COAXIAL
TM1 ANTENNA AM
Q3 NYP10 FM +B SWITCH
Q11, 12, 13, 14 MW/LW SWITCH
AEP, EE, UK
G, IT
FE2
IC41 AM RF AMP FM/AM IF AMP DET
IC41 LA1835
FM TUNING LEVEL
AM TUNING LEVEL
IFT41
AEP, G, IT, UK
IC21 PLL
IC21 LC72130
C34 5.6P G, IT 8.2P AEP, EE, UK
IC81 BUFFER NJM4558D
IC82 RDS DEMODULATER
IC82 SAA6579T
IC83 RDS & S CONTROL ERROR CORRECTION
IC83 LC7073M
⑯
⑰
⑱
1 2 3 4 5 6 7 8 9 10 11 12 13
A B C D E F G H I J K L M N O P Q R

WAVEFORMS

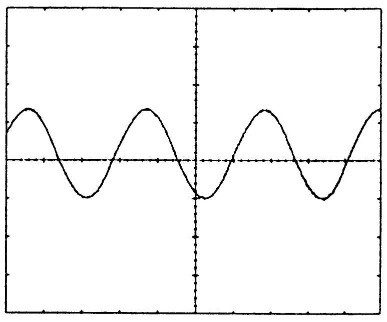
) IC101 ②pin 3.6Vp-p 8MHz



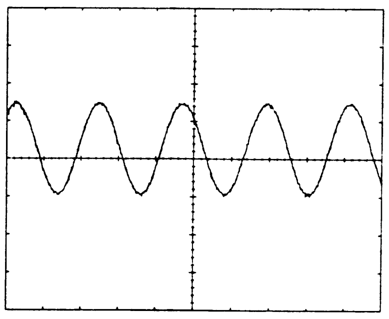
⑭ IC101 ⑤pin 4Vp-p 32.8kHz



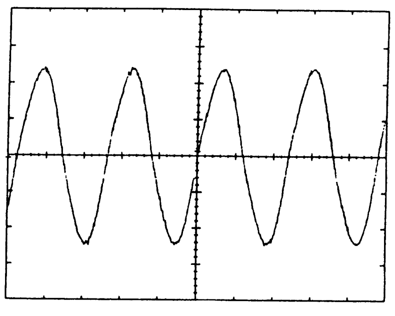
⑮ IC701 ②pin 4.7Vp-p 320kHz



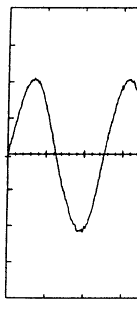
⑯ IC21 ①pin 2.5Vp-p 4.5MHz

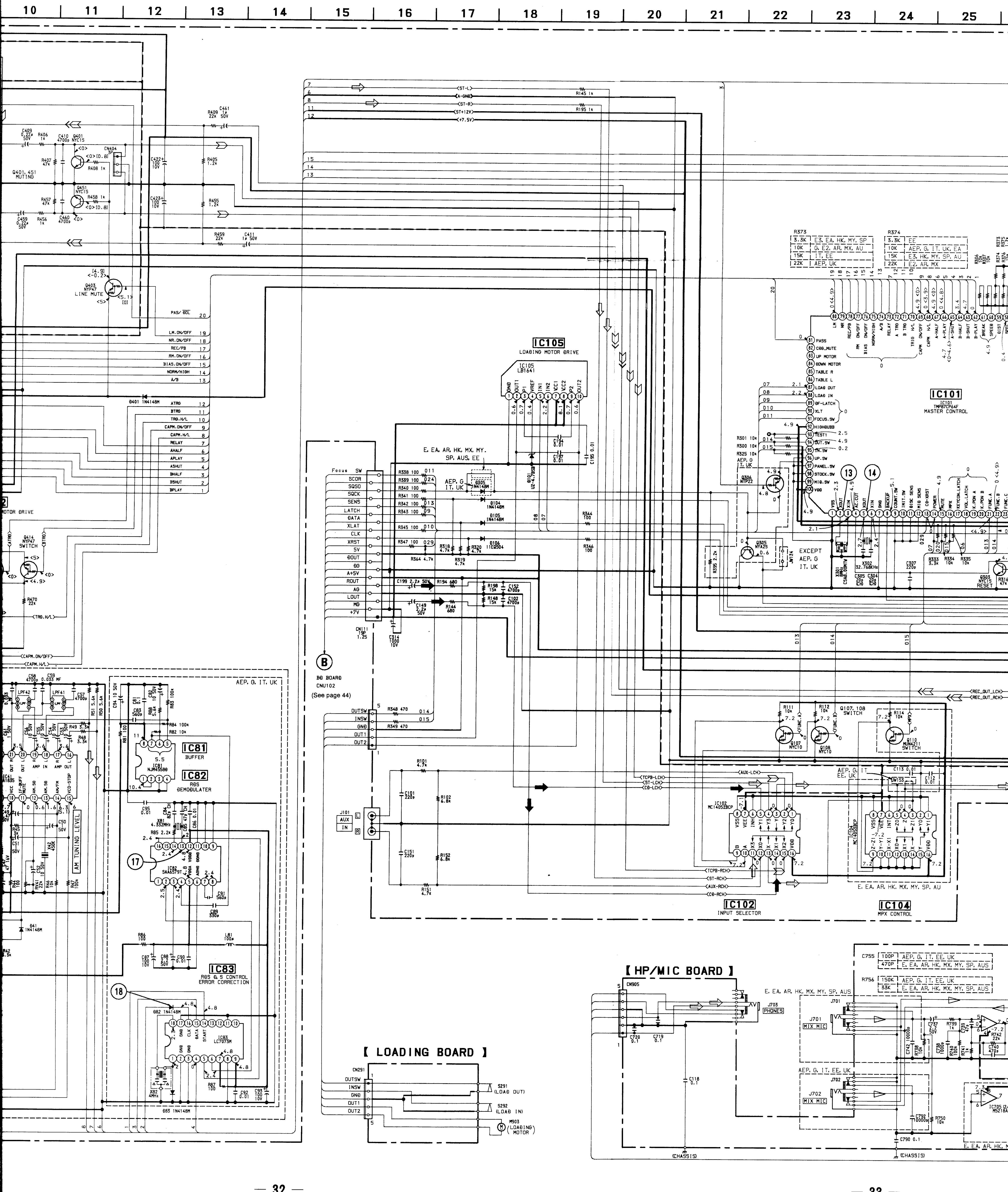


⑰ IC82 ⑬pin 4.0Vp-p 4.332MHz

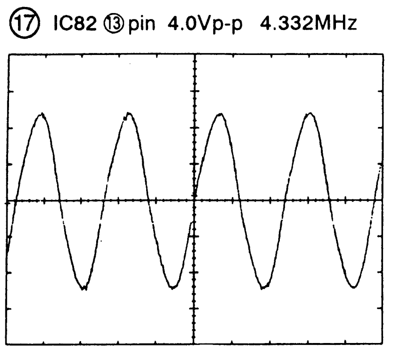


⑱ IC83 ①p

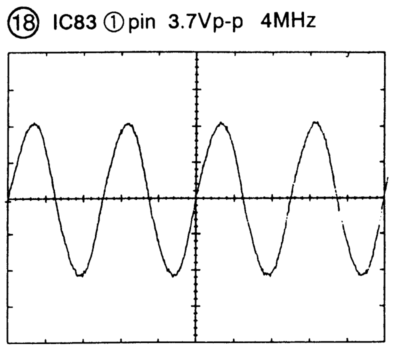




⑰ IC82 ⑬pin 4.0Vp-p 4.332MHz



⑱ IC83 ①pin 3.7Vp-p 4MHz



Note :

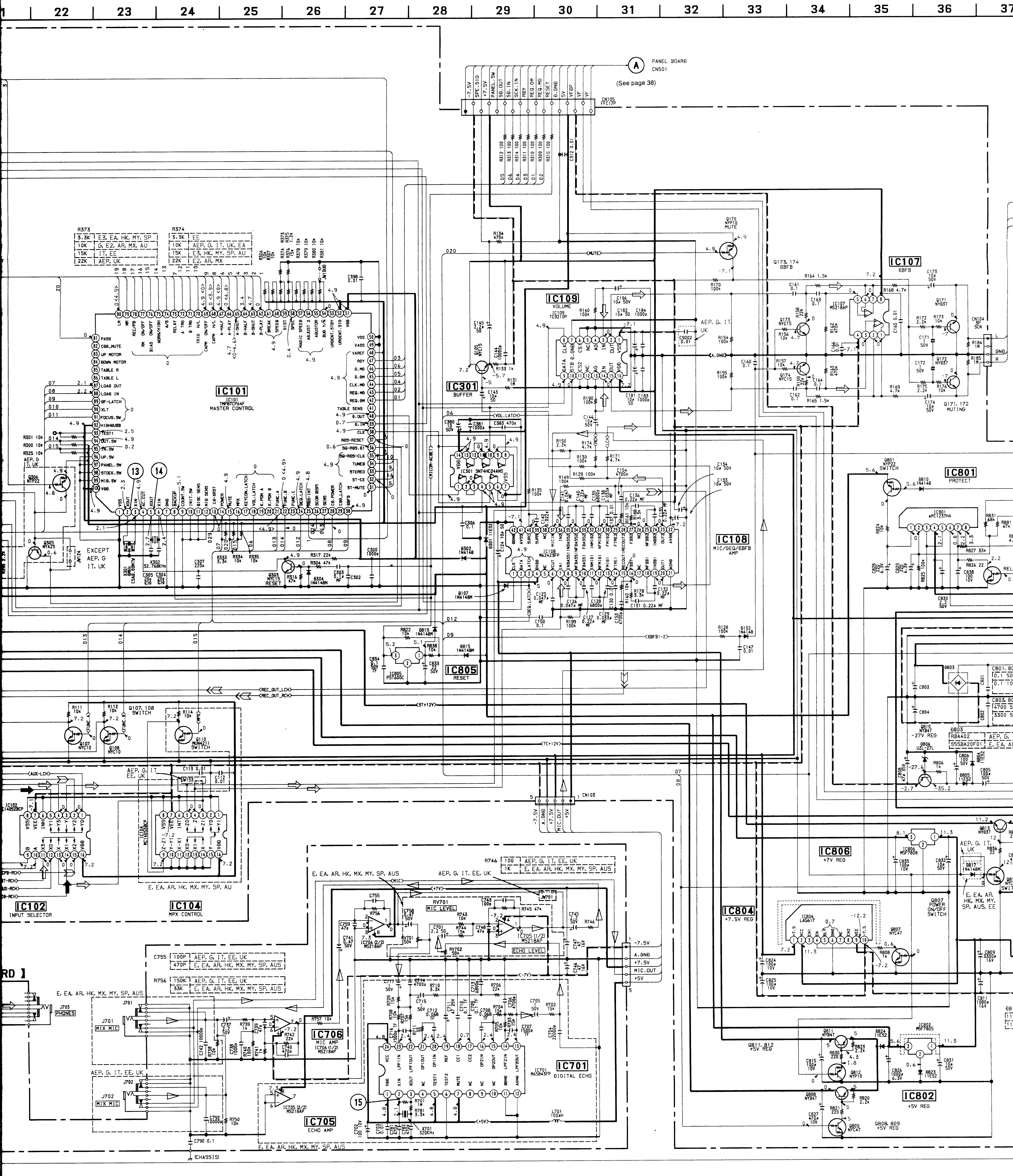
- All capacitors are in μ F unless otherwise noted. pF: μ μ F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- △ : internal component.
- : nonflammable resistor.
- : fusible resistor.

Note : The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- ▬ : B+ Line
- ▬ ▬ : B − Line
- ▭ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground und no-signal (detuned) conditions.

no mark : FM
( ) : AM
( ) : PLAY (DECK A)
[ ] : REC (DECK B)

- Voltages are taken with a VOM (Input impedance 10M Ω Voltage variations may be noted due to normal production tolerances.


22
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36
37
PANEL BOARD CN501
(See page 38)
CN105 FFC17P
IC101 TMP87CP64F MASTER CONTROL
IC109 VOLUME TC9210P
IC107 BBFB M5218AP
IC301 BUFFER SN74HC04ANS
IC108 MIC/GEQ/BBFB AMP M62423FP
IC801 PROTECT µPC1237HA
IC805 RESET PST600C
IC102 INPUT SELECTOR
IC104 MPX CONTROL
IC806 +7V REG
IC804 +7.5V REG LA5617
IC802 +5V REG
IC706 MIC AMP
IC705 ECHO AMP
IC701 DIGITAL ECHO M65843FP
J701 MIX MIC
J702 MIX MIC
J703 PHONES
RV701 MIC LEVEL
RV702 ECHO LEVEL
Q107, 108 SWITCH
Q110 SWITCH
Q170 MUTE
Q171, 172 MUTING
Q173, 174 BBFB
Q801 SWITCH
Q807 POWER ON/OFF SWITCH
Q808, 809 +5V REG
Q811, 812 +5V REG
Q303 RESET
CN103
(CHASSIS)
E, EA, AR, HK, MX, MY, SP, AUS
AEP, G, IT, EE, UK

pacitors are in μ F unless otherwise noted. pF: μ μ F
/ or less are not indicated except for electrolytics and
lums.
sistors are in Ω and ¼W or less unless otherwise
fied.
internal component.
: nonflammable resistor.
: fusible resistor.

: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- ▬ : B+ Line
- ▬ ▬ : B − Line
- ☐ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.

no mark : FM
( ) : AM
( ) : PLAY (DECK A)
[ ] : REC (DECK B)

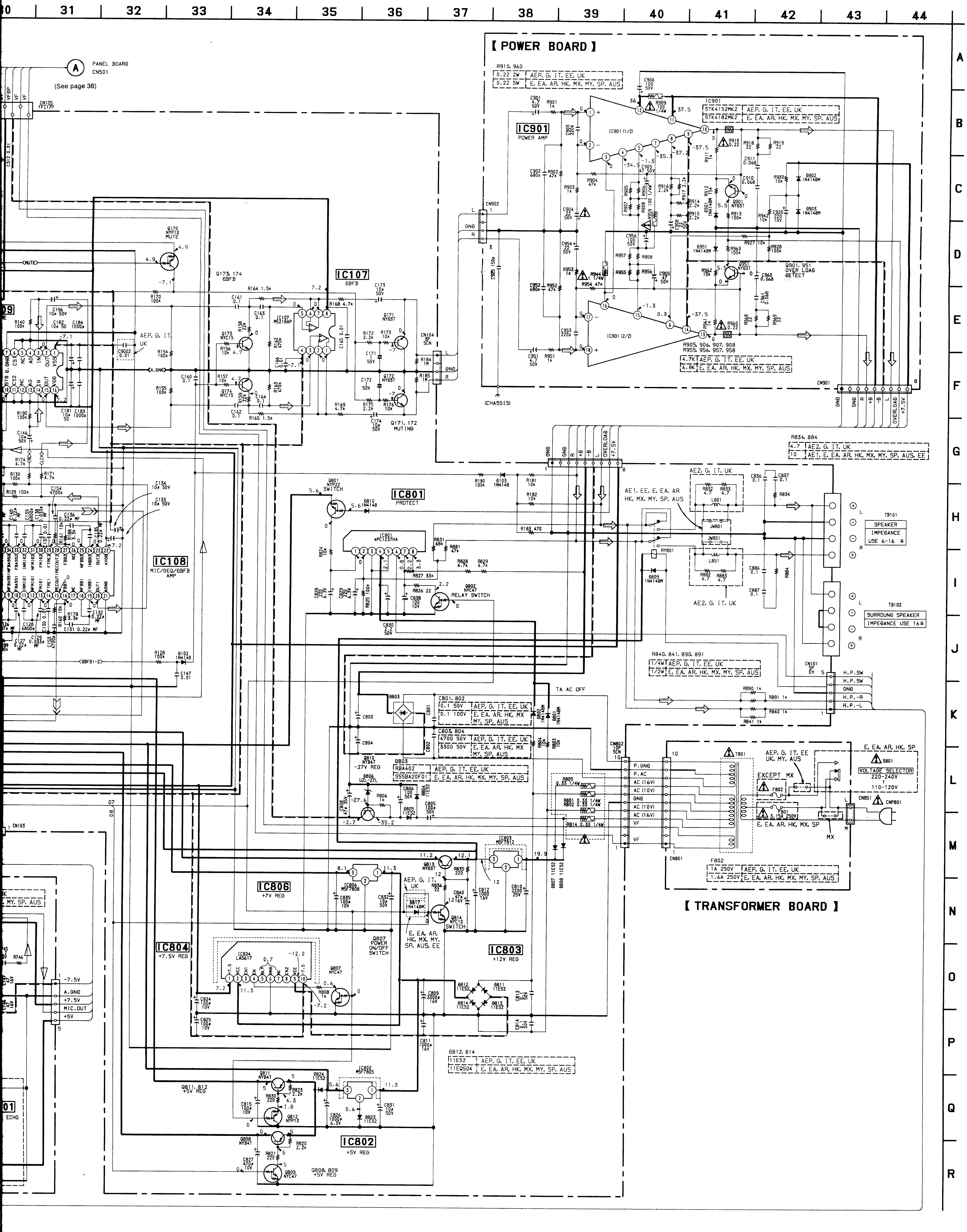
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.

- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.

⇨ : FM
➡ : AM
▷ : PB (DECK A)
▷▷ : REC (DECK)
▷ : PB (DECK B)
⇨ : CD
▷ : MIC

- Abbreviations

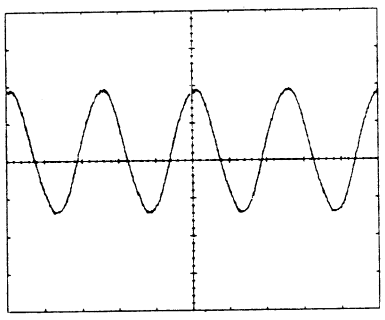
G	: German
IT	: Italian
EE	: East European
AUS	: Australian
EA	: Saudi Arabia
AR	: Argentine
HK	: Hong Kong
MX	: Mexican
MY	: Malaysia
SP	: Singapore



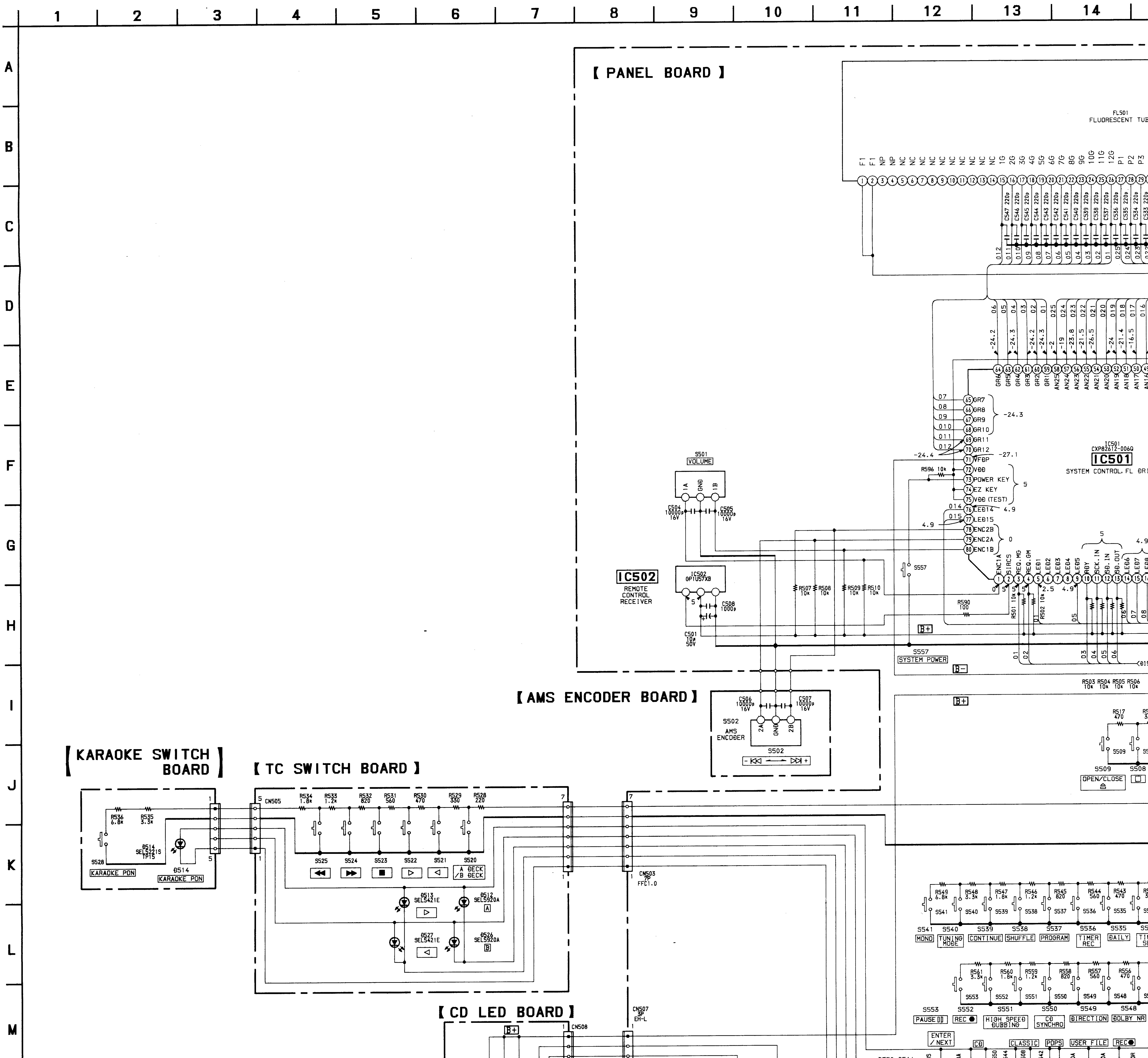
30 31 32 33 34 35 36 37 38 39 40 41 42 43 44
A B C D E F G H I J K L M N O P Q R
[POWER BOARD]
[TRANSFORMER BOARD]
PANEL BOARD CN501
(See page 38)
IC901 POWER AMP
IC901 STK4152MK2 AEP, G, IT, EE, UK
STK4162MK2 E, EA, AR, HK, MX, MY, SP, AUS
R910, 960
0.22 2W AEP, G, IT, EE, UK
0.22 5W E, EA, AR, HK, MX, MY, SP, AUS
IC901 (1/2)
IC901 (2/2)
Q901, 951 OVER LOAD DETECT
R905, 906, 907, 908
R955, 956, 957, 958
4.7K AEP, G, IT, EE, UK
6.8K E, EA, AR, HK, MX, MY, SP, AUS
CN902
CN901
(CHASSIS)
GND
+B
−B
OVERLOAD
+7.5V
Q170 NYP10 MUTE
Q173, 174 DBFB
IC107 DBFB
IC107 M5218AP
Q171 NY63T
Q172 NY63T
Q171, 172 MUTING
CN104 SP SCN
IC108 MIC/GEQ/DBFB AMP
AEP, G, IT, UK
Q801 NYP22 SWITCH
IC801 PROTECT
IC801 μPC1237HA
Q802 NYC47 RELAY SWITCH
RY801
R834, 884
4.7 AEP, G, IT, UK
10 AE1, E, EA, AR, HK, MX, MY, SP, AUS, EE
AE1, EE, E, EA, AR HK, MX, MY, SP, AUS
AE2, G, IT, UK
L801
L851
JW801
JW851
TB101 SPEAKER IMPEDANCE USE 6-16 Ω
TB102 SURROUND SPEAKER IMPEDANCE USE 16Ω
R840, 841, 890, 891
1/4W AEP, G, IT, EE, UK
1/2W E, EA, AR, HK, MX, MY, SP, AUS
CN101 SP EH
H.P.SW
H.P.SW
GND
H.P.-R
H.P.-L
TA AC OFF
C801, 802
0.1 50V AEP, G, IT, EE, UK
0.1 100V E, EA, AR, HK, MX, MY, SP, AUS
C803, 804
4700 50V AEP, G, IT, EE, UK
3300 50V E, EA, AR, HK, MX, MY, SP, AUS
D803
RBA402 AEP, G, IT, EE, UK
S5SBA20F01 E, EA, AR, HK, MX, MY, SP, AUS
Q810 NYB4T −27V REG
D806 UZL-27L
CN802 10P SCN
P.GND
P.AC
AC (16V)
AC (10V)
GND
AC (10V)
AC (16V)
VF
CN801
T801
AEP, G, IT, EE UK, MY, AUS
EXCEPT MX
F802
F801 3.15A 250V
E, EA, AR, HK, MX, SP
MX
E, EA, AR, HK, SP
S801
VOLTAGE SELECTOR 220-240V 110-120V
CN851
CNP801
F802
1A 250V AEP, G, IT, EE, UK
1.6A 250V E, EA, AR, HK, MX, MY, SP, AUS
IC803 MSF7812
Q813 NY63T
IC806 +7V REG
IC806 MSF7808
AEP, G, IT, UK
D813 1N4148M
Q814 NYC10 SWITCH
E, EA, AR, HK, MX, MY, SP, AUS, EE
IC803 +12V REG
IC804 +7.5V REG
IC804 LA5617
Q807 NYC47
Q807 POWER ON/OFF SWITCH
D812, 814
11ES2 AEP, G, IT, EE, UK
11EQS04 E, EA, AR, HK, MX, MY, SP, AUS
Q811 NYB4T
Q811, 812 +5V REG
Q812 NYP10
IC802 MSF7805
IC802 +5V REG
Q808 NYB4T
Q809 NYC47
Q808, 809 +5V REG
CN103
A.GND
+7.5V
MIC.OUT
+5V
−7.5V
MY, SP, AUS
ECHO

• **WAVEFORMS**

⑩ IC501 ㉛pin 3.4Vp-p 4MHz



6-6. SCHEMATIC DIAGRAM – PANEL SECTION –



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A
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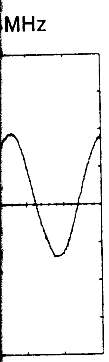
I
J
K
L
M
N
O
P
【 PANEL BOARD 】
FL501
FLUORESCENT TUBE
IC501
CXP82612-006Q
IC501
SYSTEM CONTROL, FL DRIVER
S501
VOLUME
IC502
GP1U57XB
IC502
REMOTE CONTROL RECEIVER
S557
SYSTEM POWER
【 AMS ENCODER BOARD 】
S502
AMS ENCODER
【 KARAOKE SWITCH BOARD 】
S528
KARAOKE PON
D514
KARAOKE PON
【 TC SWITCH BOARD 】
CN505
S525
S524
S523
S522
S521
S520
A DECK /B DECK
CN503
7P
FFC1.0
【 CD LED BOARD 】
CN508
CN507
3P
EH-L
CD STOP
CD PLAY
S509
OPEN/CLOSE
S541
MONO
S540
TUNING MODE
S539
CONTINUE
S538
SHUFFLE
S537
PROGRAM
S536
TIMER REC
S535
DAILY
S553
PAUSE
S552
REC ●
S551
HIGH SPEED DUBBING
S550
CD SYNCHRO
S549
DIRECTION
S548
DOLBY NR
ENTER / NEXT
CD
CLASSIC
POPS
USER FILE
REC●
TUNER/BAND
TIMER
TUNER
DANCE
JAZZ
ROCK
PAUSE
Q526
NYA2S
LED DRIVE
Q525
NYA2S
LED DRIVE
Q512
NYA2S
LED DRIVE
Q511
NYA2S
LED DRIVE
Q520
NYA2S
LED DRIVE
Q519
Q518
Q517
Q516
Q515
Q514
Q513
NYA2S
LED DRIVE
02

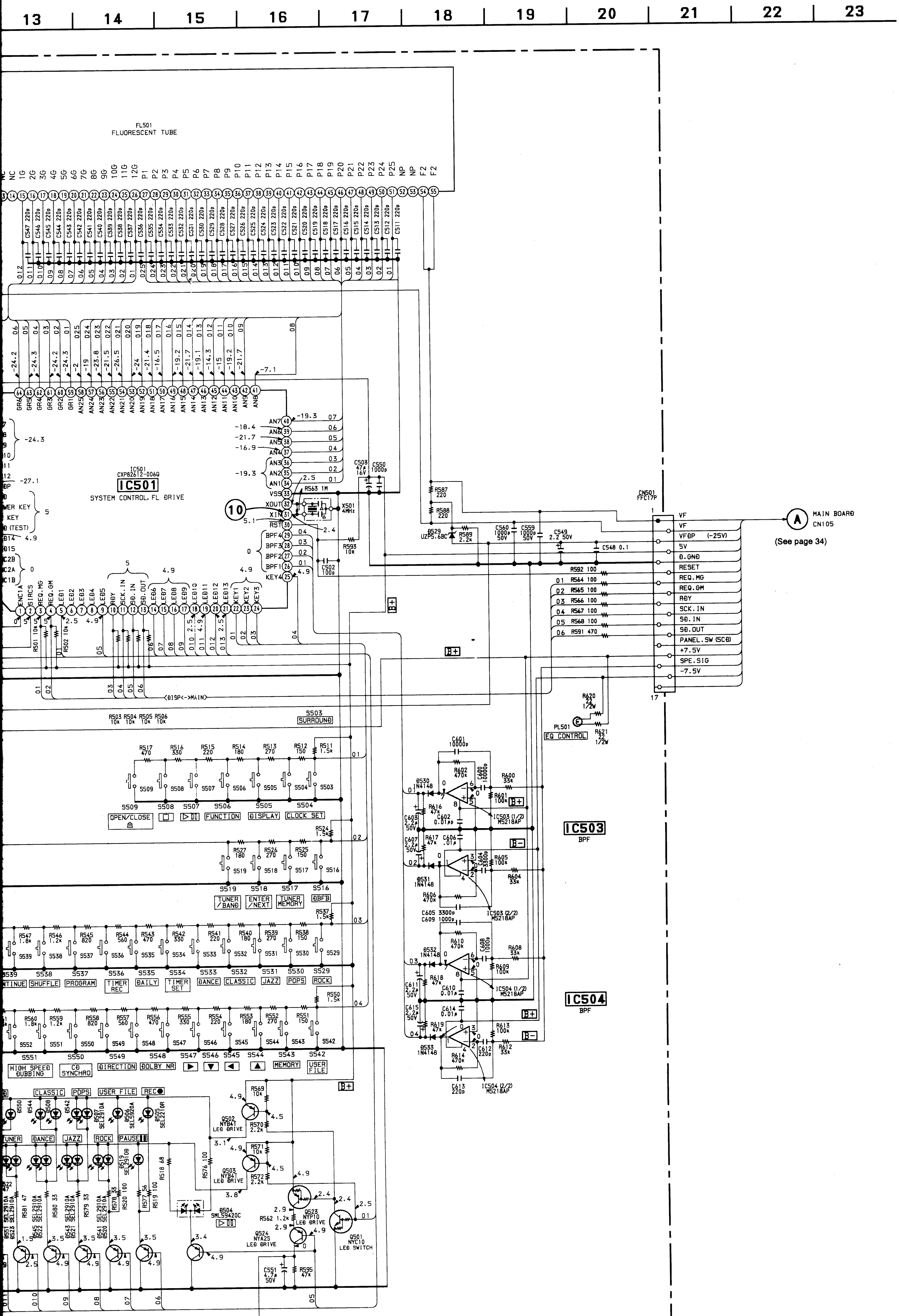


Note :

- All capacitors are in μ F unless otherwise noted. pF: μ μ F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- △ : internal component.
- **B+** : B+ Line
- **B –** : B – Line
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.

  no mark : FM

- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.


13
14
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18
19
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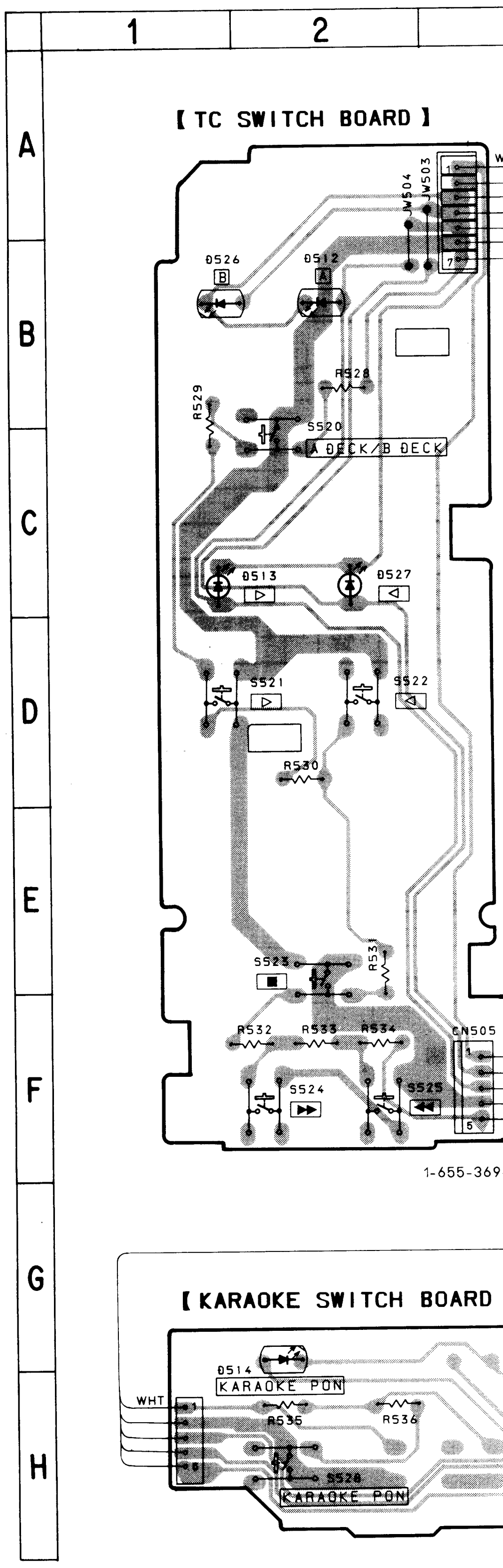
21
22
23
FL501
FLUORESCENT TUBE
IC501
CXP82612-006Q
IC501
SYSTEM CONTROL, FL DRIVE
X501 4MHz
CN501 FFC17P
VF
VF
VFBP (-25V)
5V
D.GND
RESET
REQ.MG
REQ.GM
RDY
SCK.IN
SD.IN
SD.OUT
PANEL.SW (SCD)
+7.5V
SPE.SIG
-7.5V
A
MAIN BOARD CN105
(See page 34)
PL501
EQ CONTROL
S503 SURROUND
OPEN/CLOSE
FUNCTION
DISPLAY
CLOCK SET
TUNER /BAND
ENTER /NEXT
TUNER MEMORY
DBFB
SHUFFLE
PROGRAM
TIMER REC
DAILY
TIMER SET
DANCE
CLASSIC
JAZZ
POPS
ROCK
HIGH SPEED DUBBING
CD SYNCHRO
DIRECTION
DOLBY NR
MEMORY
USER FILE
IC503
BPF
IC504
BPF
IC503 (1/2) M5218AP
IC503 (2/2) M5218AP
IC504 (1/2) M5218AP
IC504 (2/2) M5218AP
Q502 NYB4T LED DRIVE
Q503 NYB4T LED DRIVE
Q523 NYP10 LED DRIVE
Q524 NYA2S LED DRIVE
Q501 NYC10 LED SWITCH
Q517 NYA2S LED DRIVE
Q516 NYA2S LED DRIVE
Q515 NYA2S LED DRIVE
Q514 NYA2S LED DRIVE
Q513 NYA2S LED DRIVE
Q507 NYA2S LED DRIVE
D504 SML59420C

• SEMICONDUCTOR LOCAT

Ref. No.	Location	Ref. N
D504	B - 6	D544
D505	G - 13	D545
D506	F - 14	D550
D507	F - 13	D551
D508	F - 11	D552
D510	F - 10	
D511	F - 7	IC501
D512	B - 2	IC502
D513	C - 1	IC503
D514	G - 2	IC504
D519	G - 12	
D520	F - 13	Q501
D521	F - 12	Q502
D522	F - 11	Q503
D523	F - 9	Q507
		Q511
D524	F - 11	
D525	G - 6	Q512
D526	B - 1	Q513
D527	C - 2	Q514
D529	D - 10	Q515
		Q516
D530	C - 7	
D531	D - 15	Q517
D532	C - 8	Q518
D533	D - 15	Q519
D535	B - 11	Q520
		Q523
D536	B - 11	
D537	B - 11	Q524
D541	F - 13	Q525
D542	F - 12	Q526
D543	F - 12	

6-7. PRINTED WIRING BOARDS – PANEL S


1
2
A
B
C
D
E
F
G
H
[TC SWITCH BOARD]
D526
D512
R528
R529
S520
A DECK/B DECK
D513
D527
S521
S522
R530
S523
R531
R532
R533
R534
CN505
S524
S525
1-655-369
[KARAOKE SWITCH BOARD
D514
KARAOKE PON
R535
R536
S528
KARAOKE PON
WHT

Note:

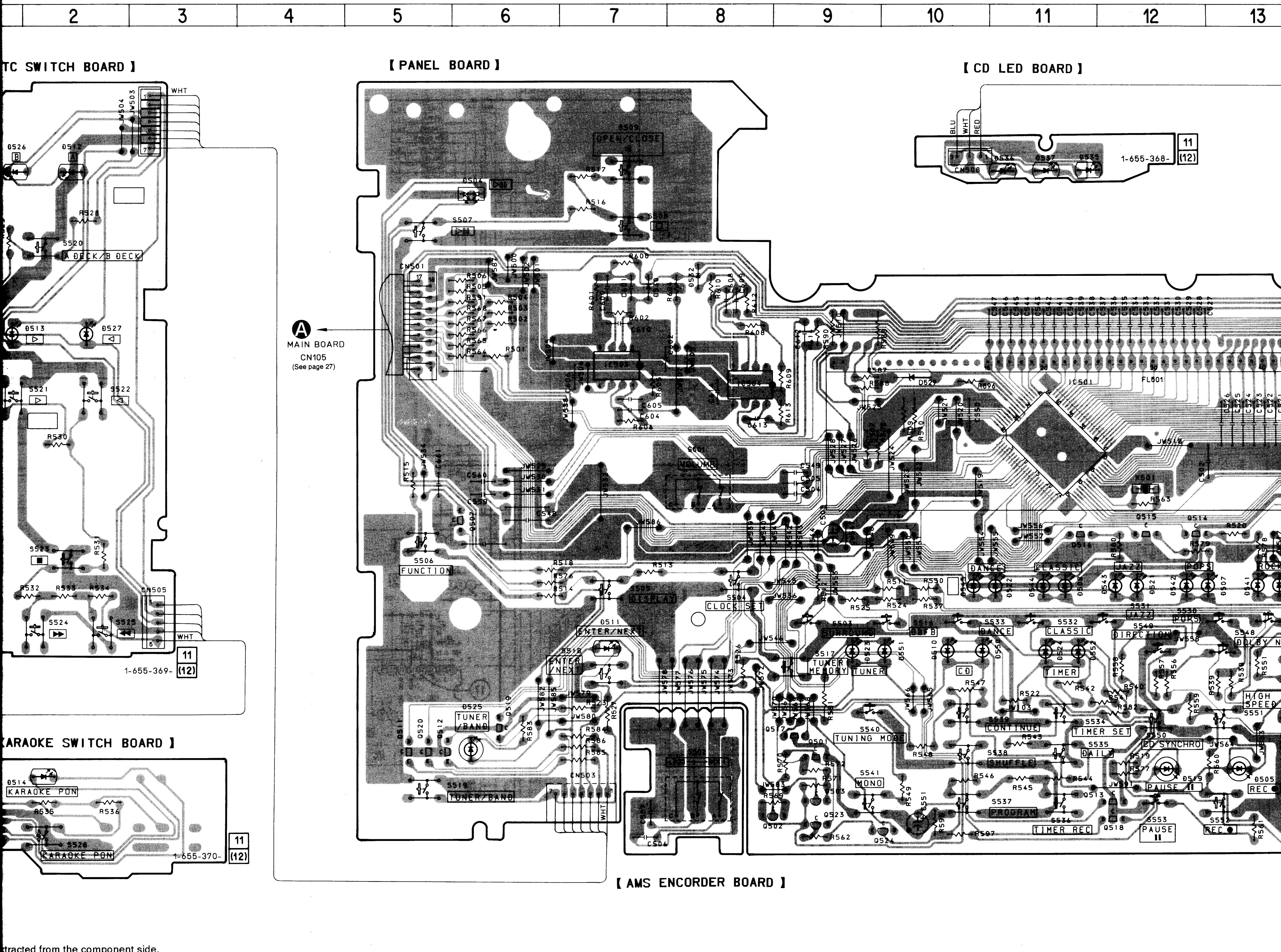
- ○— : parts extracted from the component side.
- ░ : Pattern on the side which is seen.

• SEMICONDUCTOR LOCATION

Ref. No.	Location	Ref. No.	Location
D504	B - 6	D544	F - 11
D505	G - 13	D545	F - 10
D506	F - 14	D550	F - 10
D507	F - 13	D551	F - 10
D508	F - 11	D552	F - 11
D510	F - 10		
D511	F - 7	IC501	D - 11
D512	B - 2	IC502	E - 15
D513	C - 1	IC503	D - 7
D514	G - 2	IC504	D - 8
D519	G - 12		
D520	F - 13	Q501	G - 9
D521	F - 12	Q502	H - 8
D522	F - 11	Q503	H - 9
D523	F - 9	Q507	E - 6
		Q511	G - 5
D524	F - 11		
D525	G - 6	Q512	G - 5
D526	B - 1	Q513	H - 12
D527	C - 2	Q514	E - 12
D529	D - 10	Q515	E - 12
		Q516	E - 11
D530	C - 7		
D531	D - 15	Q517	G - 9
D532	C - 8	Q518	H - 12
D533	D - 15	Q519	G - 6
D535	B - 11	Q520	G - 5
		Q523	H - 9
D536	B - 11		
D537	B - 11	Q524	H - 10
D541	F - 13	Q525	C - 14
D542	F - 12	Q526	C - 14
D543	F - 12		

RING BOARDS – PANEL SECTION –

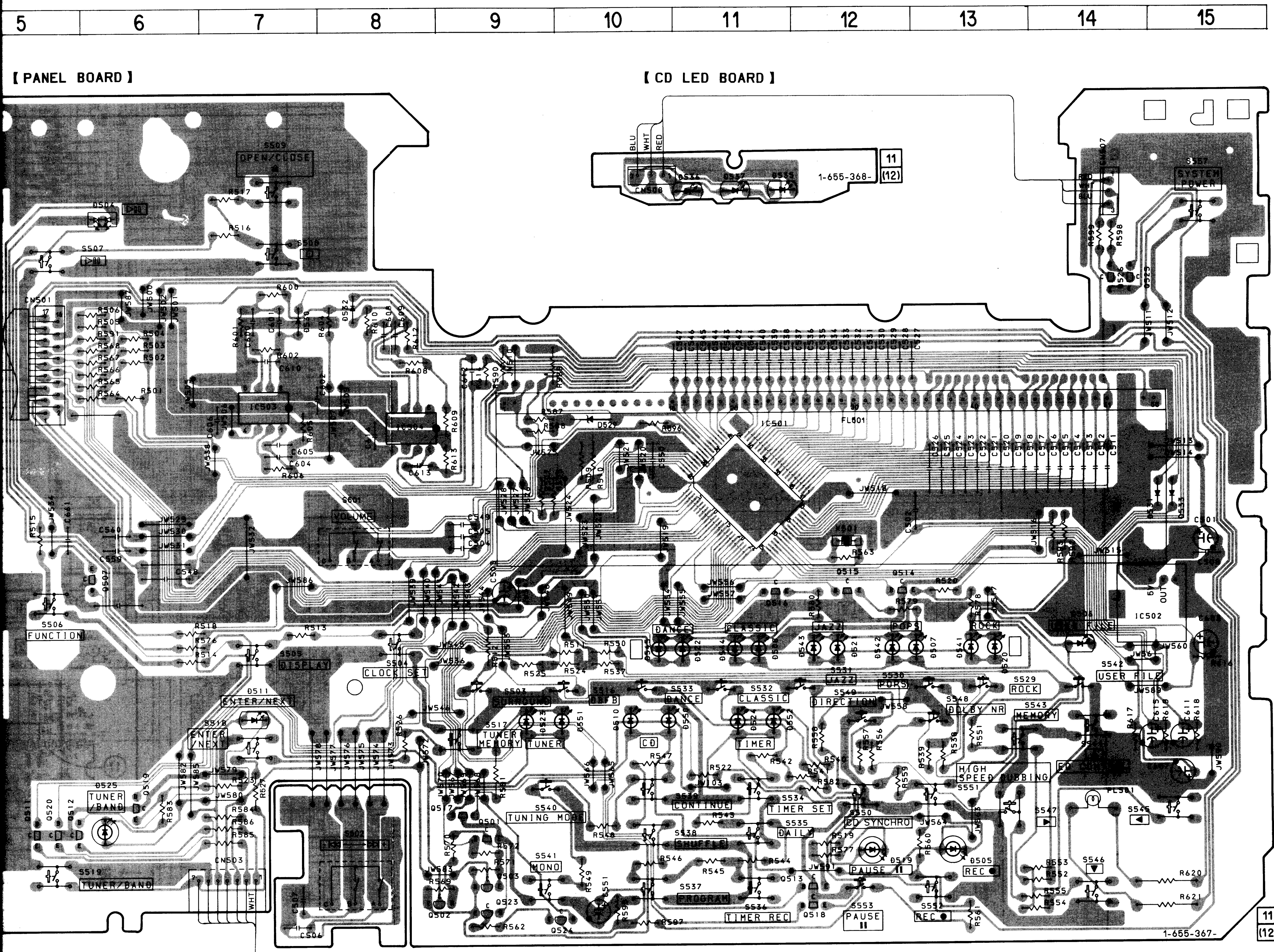
• Refer to page 24 for Semiconductor Lead Layouts.


2
3
4
5
6
7
8
9
10
11
12
13
TC SWITCH BOARD]
[PANEL BOARD]
[CD LED BOARD]
A
MAIN BOARD
CN105
(See page 27)
OPEN/CLOSE
A DECK/B DECK
FUNCTION
DISPLAY
CLOCK SET
ENTER/NEXT
TUNER/BAND
VOLUME
IC501
FL501
DANCE
CLASSIC
JAZZ
POPS
TUNER MEMORY
TUNER
TUNING MODE
MONO
CD
CONTINUE
SHUFFLE
PROGRAM
TIMER
TIMER SET
TIMER REC
DAILY
DIRECTION
CD SYNCHRO
PAUSE II
REC ●
HIGH SPEED
1-655-368-
1-655-369-
1-655-370-
11
(12)
ARAOKE SWITCH BOARD]
KARAOKE PON
[AMS ENCORDER BOARD]

tracted from the component side.

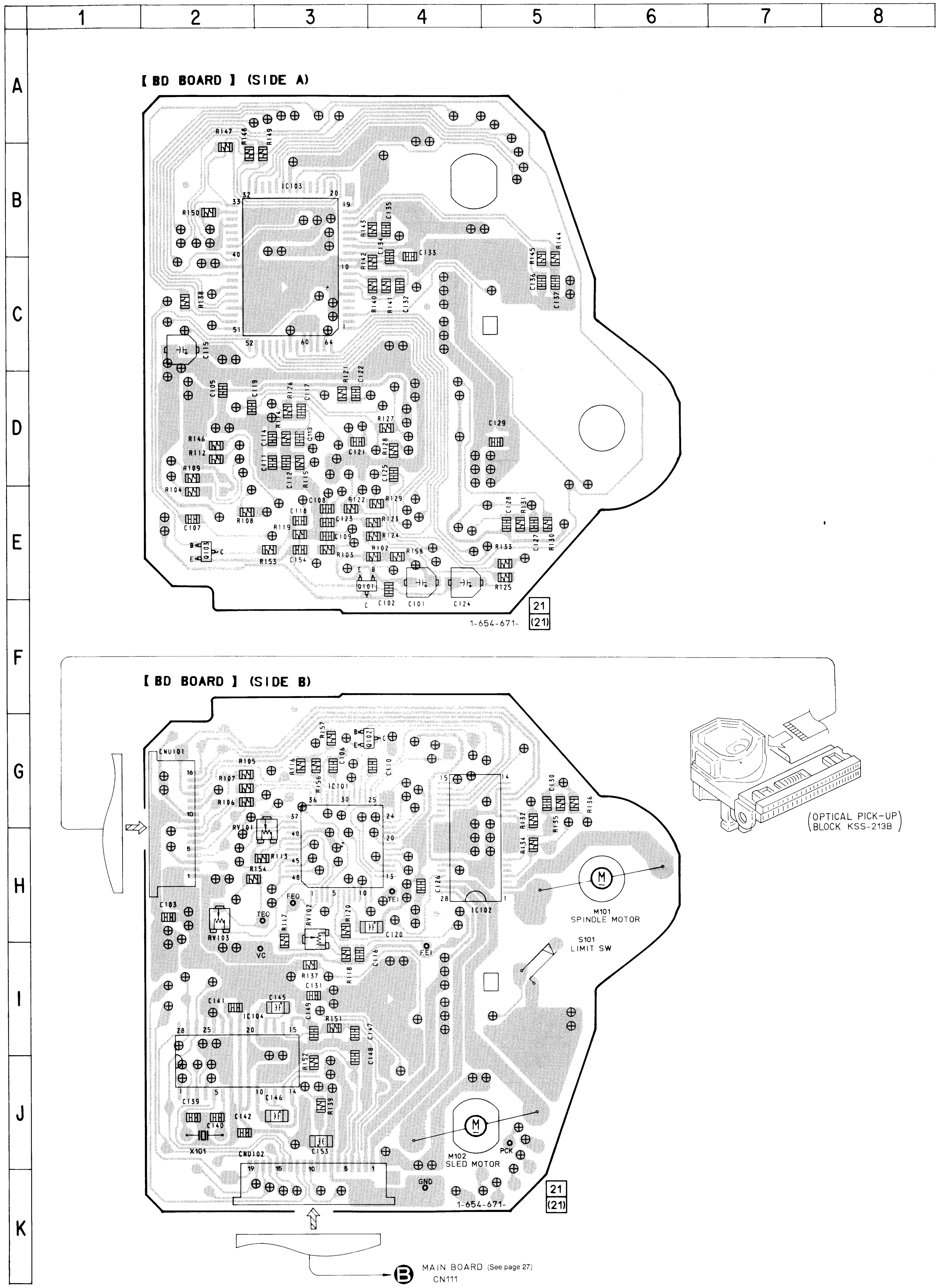
n on the side which is seen.

24 for Semiconductor Lead Layouts.


5
6
7
8
9
10
11
12
13
14
15
[PANEL BOARD]
[CD LED BOARD]
[AMS ENCORDER BOARD]
BLU
WHT
RED
CN508
1-655-368-
11
(12)
S509
OPEN/CLOSE
S507
S508
CN501
IC503
IC501
FL501
IC502
S557
SYSTEM POWER
S601
VOLUME
S506
FUNCTION
S505
DISPLAY
S504
CLOCK SET
ENTER/NEXT
TUNER /BAND
S519
TUNER/BAND
CN503
S503
SURROUND
S517
TUNER MEMORY
TUNER
CD
DANCE
CLASSIC
JAZZ
POPS
ROCK
DIRECTION
DOLBY NR
MEMORY
USER FILE
HIGH SPEED DUBBING
CONTINUE
TIMER SET
TIMER
CD SYNCHRO
SHUFFLE
DAILY
PROGRAM
TIMER REC
S540
TUNING MODE
S541
MONO
S553
PAUSE II
S552
REC ●
1-655-367-
11
(12)

6-8. PRINTED WIRING BOARDS – BD SECTION –

• Refer to page 24 for Semiconductor Lead Layouts.


1
2
3
4
5
6
7
8
A
B
C
D
E
F
G
H
I
J
K
[BD BOARD] (SIDE A)
IC103
IC101
Q101
Q102
Q103
1-654-671-
21
(21)
[BD BOARD] (SIDE B)
CNU101
IC101
IC102
IC104
RV101
RV102
RV103
TEO
FEO
FEI
VC
M101
SPINDLE MOTOR
S101
LIMIT SW
M102
SLED MOTOR
PCK
GND
X101
CNU102
(OPTICAL PICK-UP)
(BLOCK KSS-213B)
MAIN BOARD (See page 27)
CN111
1-654-671-
21
(21)

• SEMICONDUCTOR LOCATION

Ref. No.	Location
IC101	H-3
IC102	H-4
IC103	B-3
IC104	I-2
Q101	E-3
Q102	G-3
Q103	E-2

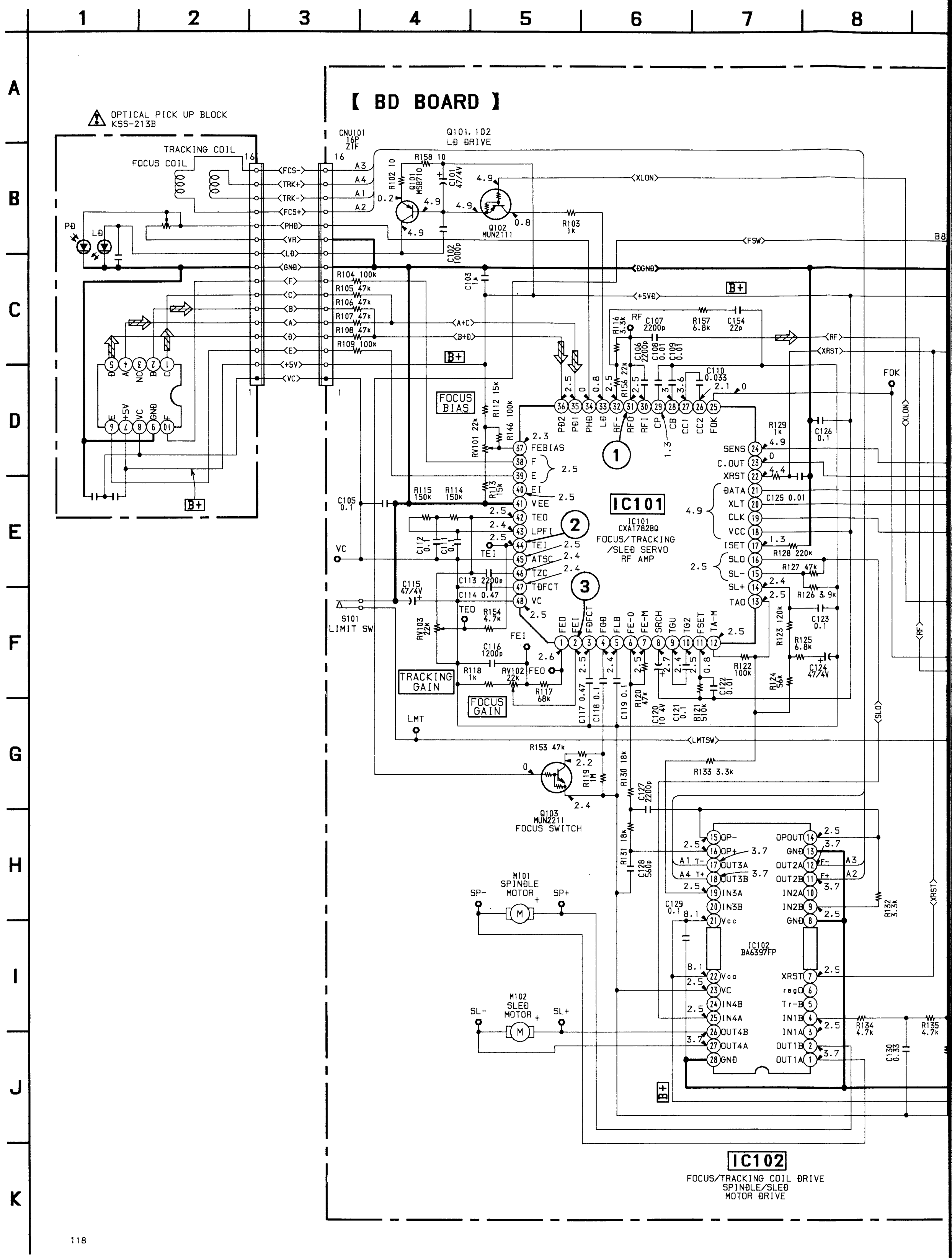
Note:

- ⊗ : Through hole.
- ▨ : Pattern from the side which enables seeing.
  (The other layers' patterns are not indicated)

Caution :

Pattern face side : (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side : (Component side)	Parts on the parts face side seen from the parts face are indicated.

6-9. SCHEMATIC DIAGRAM – BD SECTION –

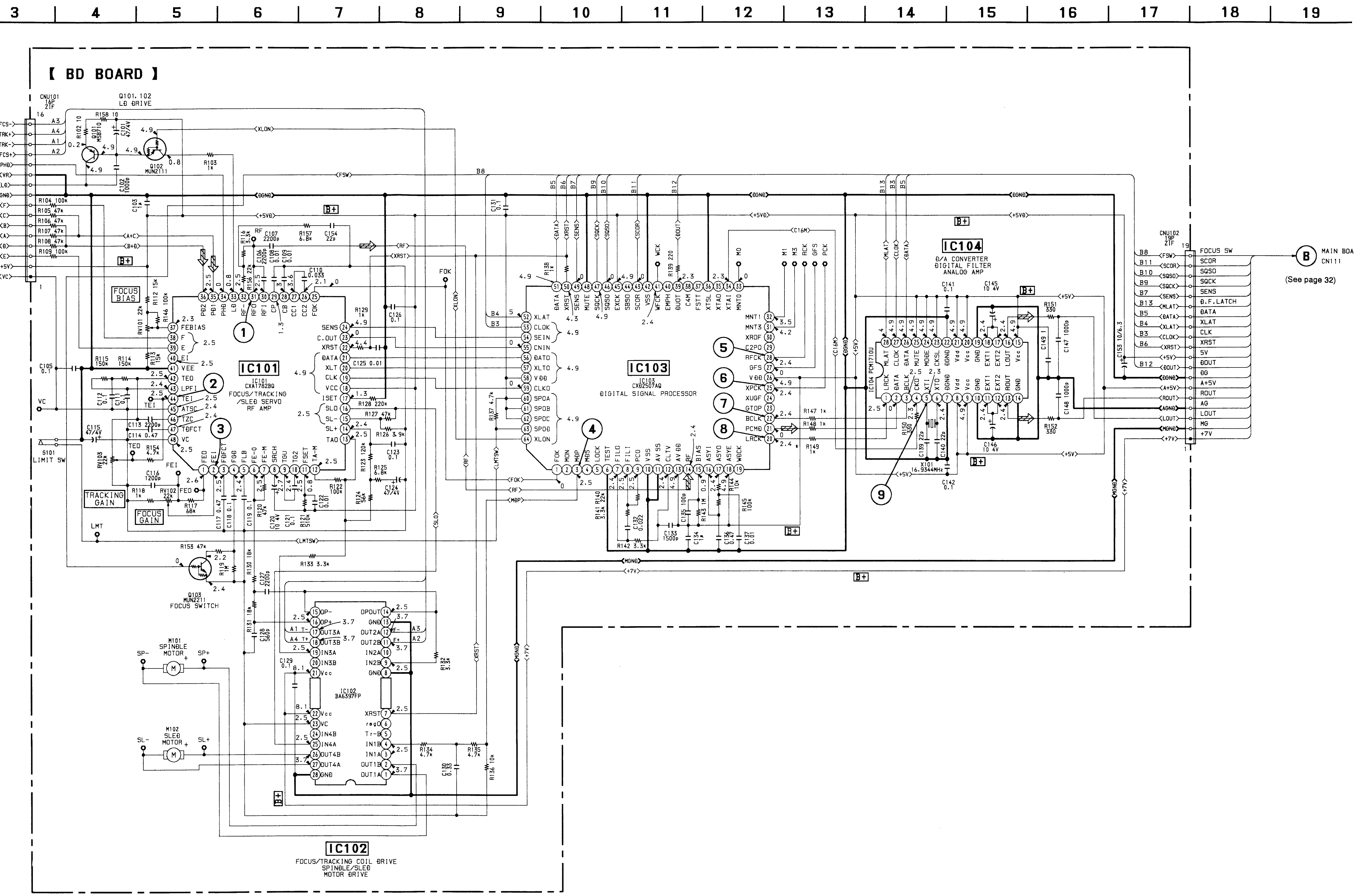

1
2
3
4
5
6
7
8
A
B
C
D
E
F
G
H
I
J
K
[BD BOARD]
OPTICAL PICK UP BLOCK KSS-213B
TRACKING COIL
FOCUS COIL
PD
LD
CNU101 16P ZIF
Q101, 102 LD DRIVE
Q102 MUN2111
FOCUS BIAS
TRACKING GAIN
FOCUS GAIN
IC101
IC101 CXA1782BQ FOCUS/TRACKING /SLED SERVO RF AMP
S101 LIMIT SW
LMT
Q103 MUN2211 FOCUS SWITCH
M101 SPINDLE MOTOR
M102 SLED MOTOR
IC102
IC102 BA6397FP
FOCUS/TRACKING COIL DRIVE SPINDLE/SLED MOTOR DRIVE
FOK
118

Note :

• All capac
50WV or
tantalum
• All resist
specified
• Δ : inte

Note : T
lin
R

D SECTION –


【 BD BOARD 】
CNU101 16P ZIF
Q101, 102 LD DRIVE
FOCUS BIAS
TRACKING GAIN
FOCUS GAIN
S101 LIMIT SW
Q103 MUN2211 FOCUS SWITCH
IC101
IC101 CXA1782BQ FOCUS/TRACKING /SLED SERVO RF AMP
IC103
IC103 CXD2507AQ DIGITAL SIGNAL PROCESSOR
IC104
D/A CONVERTER DIGITAL FILTER ANALOG AMP
IC104 PCM1710U
X101 16.9344MHz
IC102 BA6397FP
IC102
FOCUS/TRACKING COIL DRIVE SPINDLE/SLED MOTOR DRIVE
M101 SPINDLE MOTOR
M102 SLED MOTOR
SP-
SP+
SL-
SL+
CNU102 19P ZIF
FOCUS SW
SCOR
SQSO
SQCK
SENS
D.F.LATCH
DATA
XLAT
CLK
XRST
5V
DOUT
DG
A+5V
ROUT
AG
LOUT
MG
+7V
B
MAIN BOARD CN111
(See page 32)
B+
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19

Note :

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- △ : internal component.

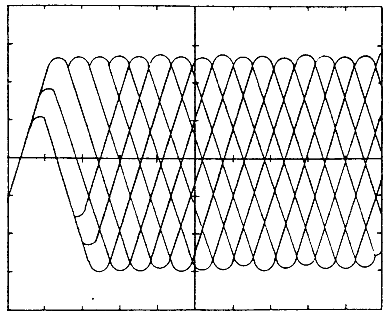
Note : The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- B+ : B+ Line
- B – : B – Line
- ▭ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal (CD) conditions.
  no mark : STOP
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.

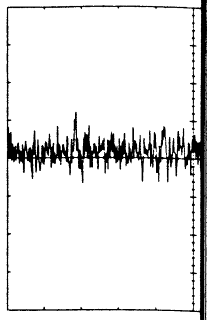
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD

• WAVEFORMS

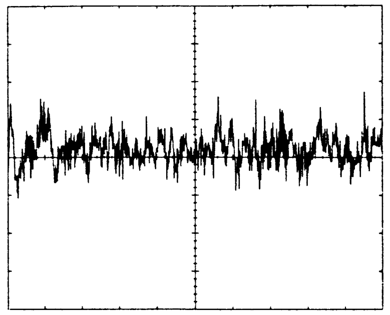
① IC101 ㉛pin 1.4Vp-p



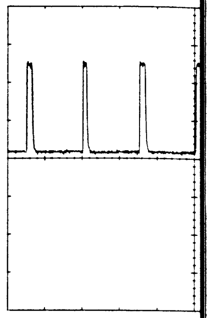
② IC101 ㊹pin 8m



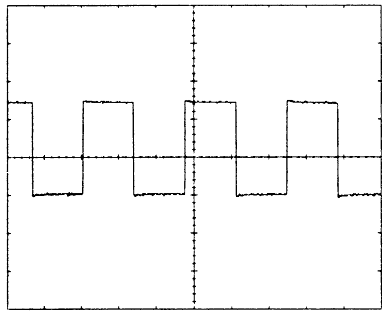
③ IC101 ②pin 20mVp-p 2ms/DIV



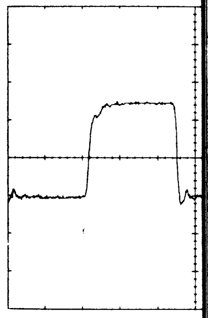
④ IC103 ③pin 2.



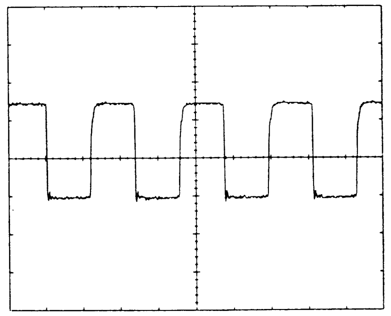
⑤ IC103 ㉘pin 5.1Vp-p 137μsec



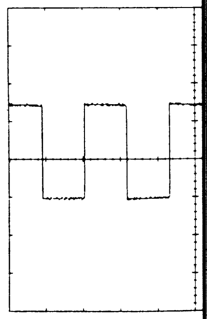
⑥ IC103 ㉕pin 5.



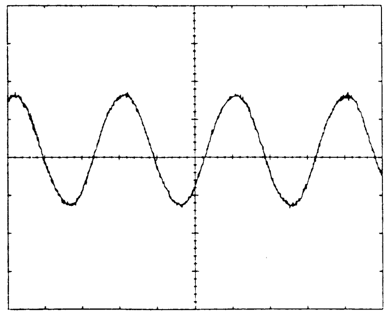
⑦ IC103 ㉒pin 5.1Vp-p 472.7nsec

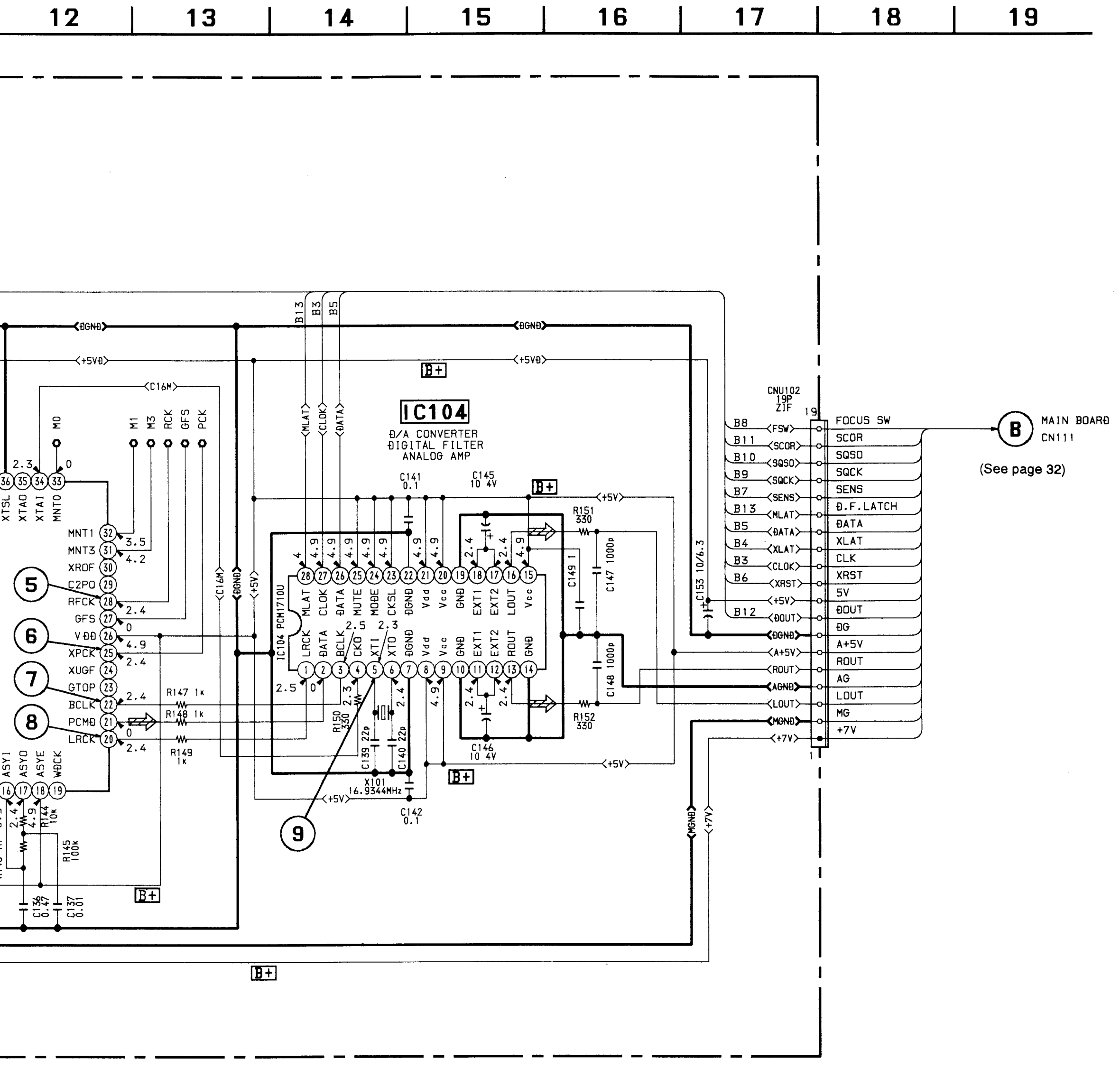


⑧ IC103 ⑳pin 5.



⑨ IC104 ⑤pin 3Vp-p 16.9344MHz




12
13
14
15
16
17
18
19
IC104
D/A CONVERTER
DIGITAL FILTER
ANALOG AMP
IC104 PCM1710U
X101 16.9344MHz
CNU102 19P ZIF
FOCUS SW
SCOR
SQSO
SQCK
SENS
D.F.LATCH
DATA
XLAT
CLK
XRST
5V
DOUT
DG
A+5V
ROUT
AG
LOUT
MG
+7V
B
MAIN BOARD CN111
(See page 32)
B+
5
6
7
8
9

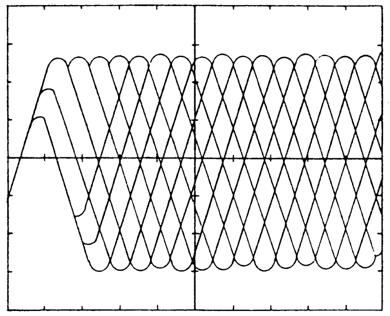
μ F
nd

- **B+** : B+ Line
- **B −** : B − Line
- ☐ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal (CD) conditions.
  no mark : STOP
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.

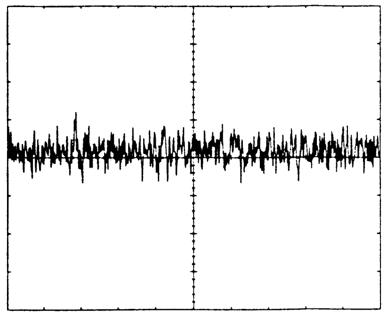
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD

• WAVEFORMS

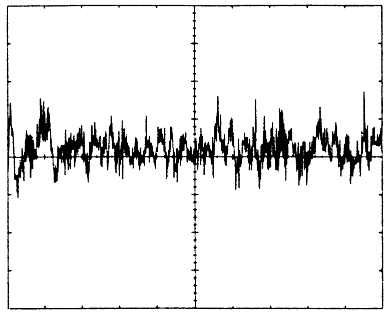
① IC101 ㉛pin 1.4Vp-p



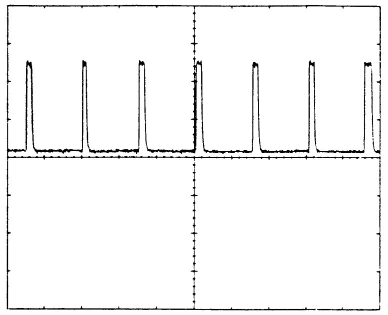
② IC101 ㊹pin 8mVp-p 0.2ms/DIV



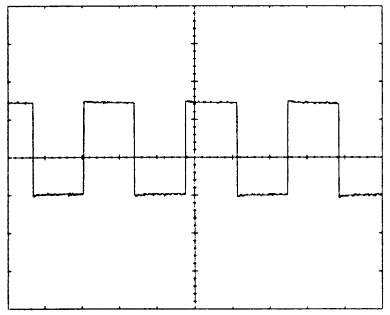
③ IC101 ②pin 20mVp-p 2ms/DIV



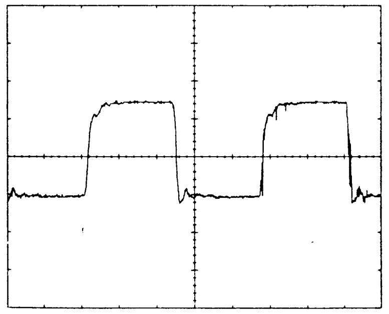
④ IC103 ③pin 2.4Vp-p 7.5μsec



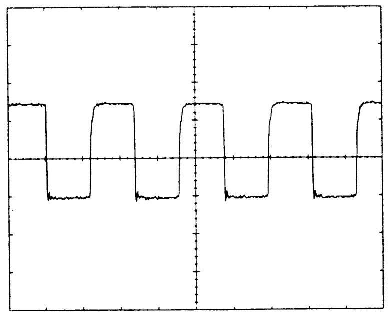
⑤ IC103 ㉘pin 5.1Vp-p 137μsec



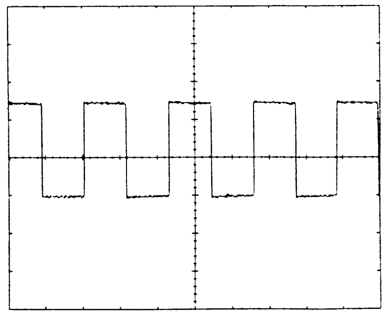
⑥ IC103 ㉕pin 5.1Vp-p 232.7nsec



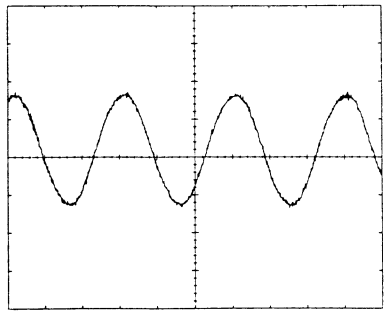
⑦ IC103 ㉒pin 5.1Vp-p 472.7nsec



⑧ IC103 ⑳pin 5.1Vp-p 23μsec

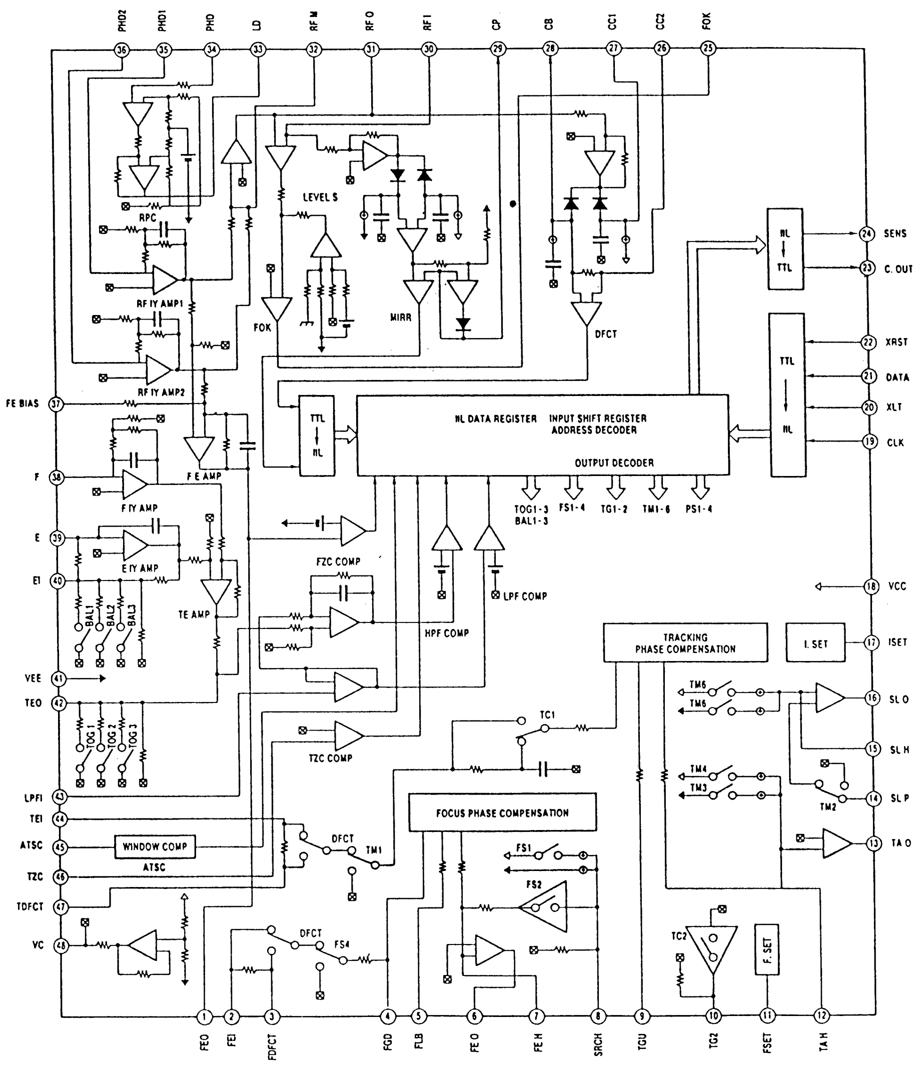


⑨ IC104 ⑤pin 3Vp-p 16.9344MHz

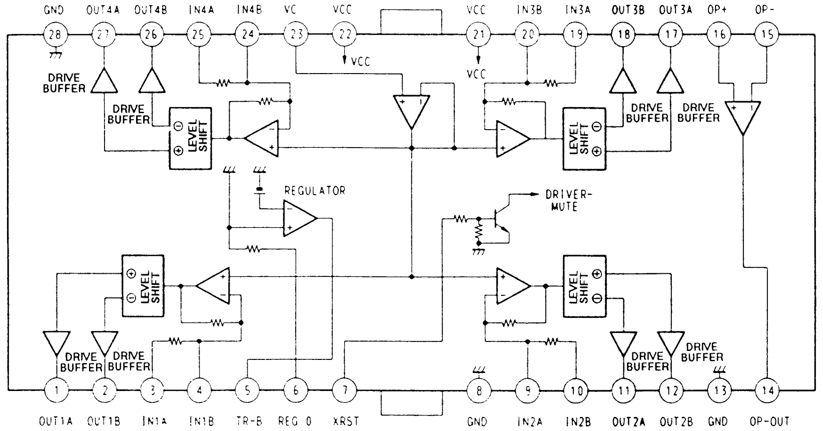


• IC BLOCK DIAGRAMS – BD SECTION –

IC101 CXA1782BQ


PHD2
PHD1
PHD
LD
RF M
RF O
RF I
CP
CB
CC1
CC2
FOK
SENS
C. OUT
XRST
DATA
XLT
CLK
VCC
ISET
SL O
SL M
SL P
TA O
FE BIAS
F
E
EI
VEE
TEO
LPFI
TEI
ATSC
TZC
TDFCT
VC
FEO
FEI
FDFCT
FGD
FLB
FE O
FE M
SRCH
TGU
TG2
FSET
TA M
RPC
RF I/V AMP1
RF I/V AMP2
F I/V AMP
E I/V AMP
FE AMP
TE AMP
LEVEL S
MIRR
DFCT
TTL
BL
BL DATA REGISTER INPUT SHIFT REGISTER ADDRESS DECODER
OUTPUT DECODER
FZC COMP
HPF COMP
LPF COMP
TZC COMP
WINDOW COMP
TRACKING PHASE COMPENSATION
FOCUS PHASE COMPENSATION
I. SET
F. SET
TC1
TC2
TM1
TM2
TM3
TM4
TM5
TM6
FS1
FS2
FS4

IC102 BA6397FP-T1

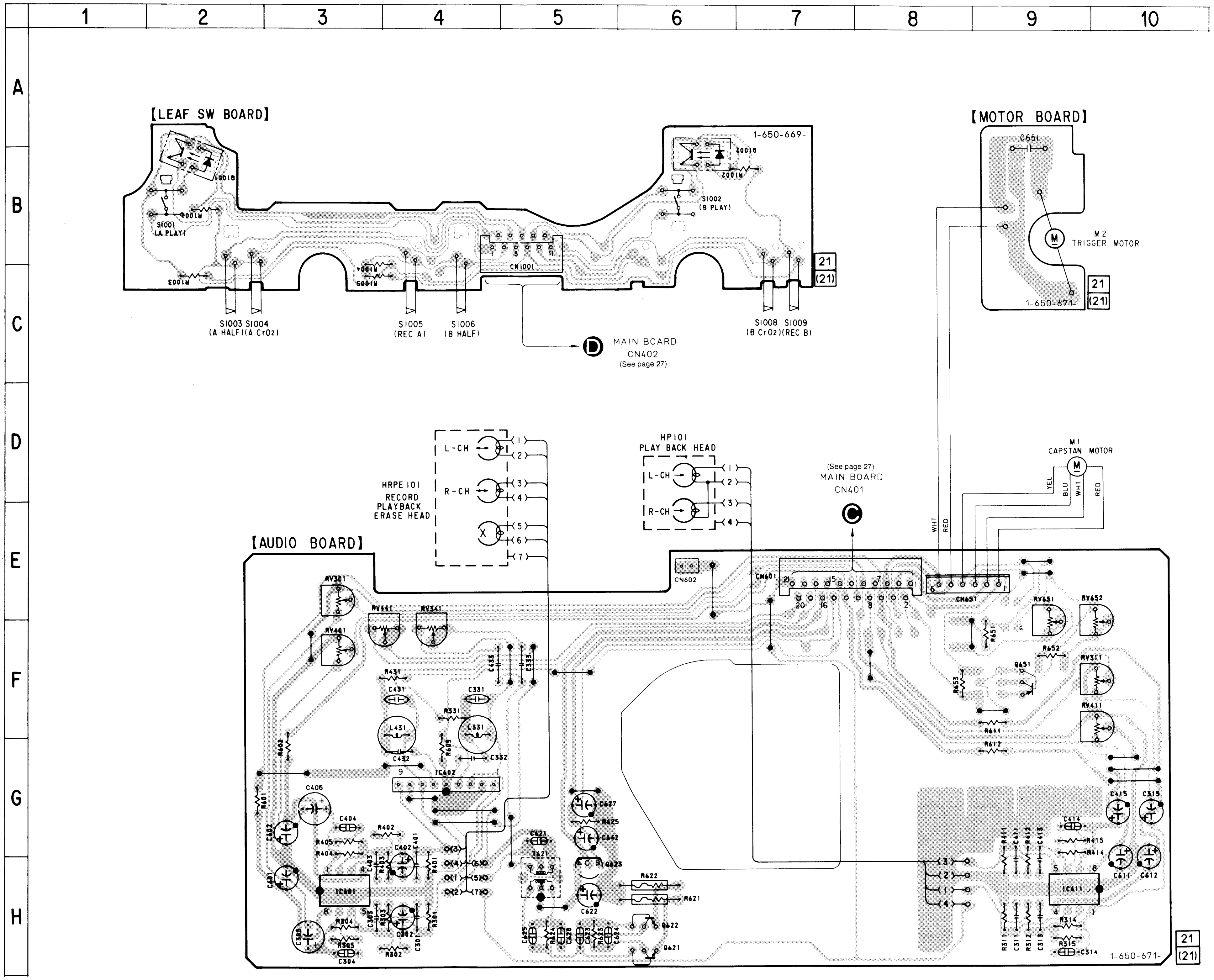

GND
OUT4A
OUT4B
IN4A
IN4B
VC
VCC
VCC
IN3B
IN3A
OUT3B
OUT3A
OP+
OP-
DRIVE BUFFER
LEVEL SHIFT
REGULATOR
DRIVER-MUTE
OUT1A
OUT1B
IN1A
IN1B
TR-B
REG O
XRST
GND
IN2A
IN2B
OUT2A
OUT2B
GND
OP-OUT

6-10. PRINTED WIRING BOARDS – AUDIO SECTION –

• Refer to page 24 for Semiconductor Lead Layouts.

• SEMICONDUCTOR LOCATION

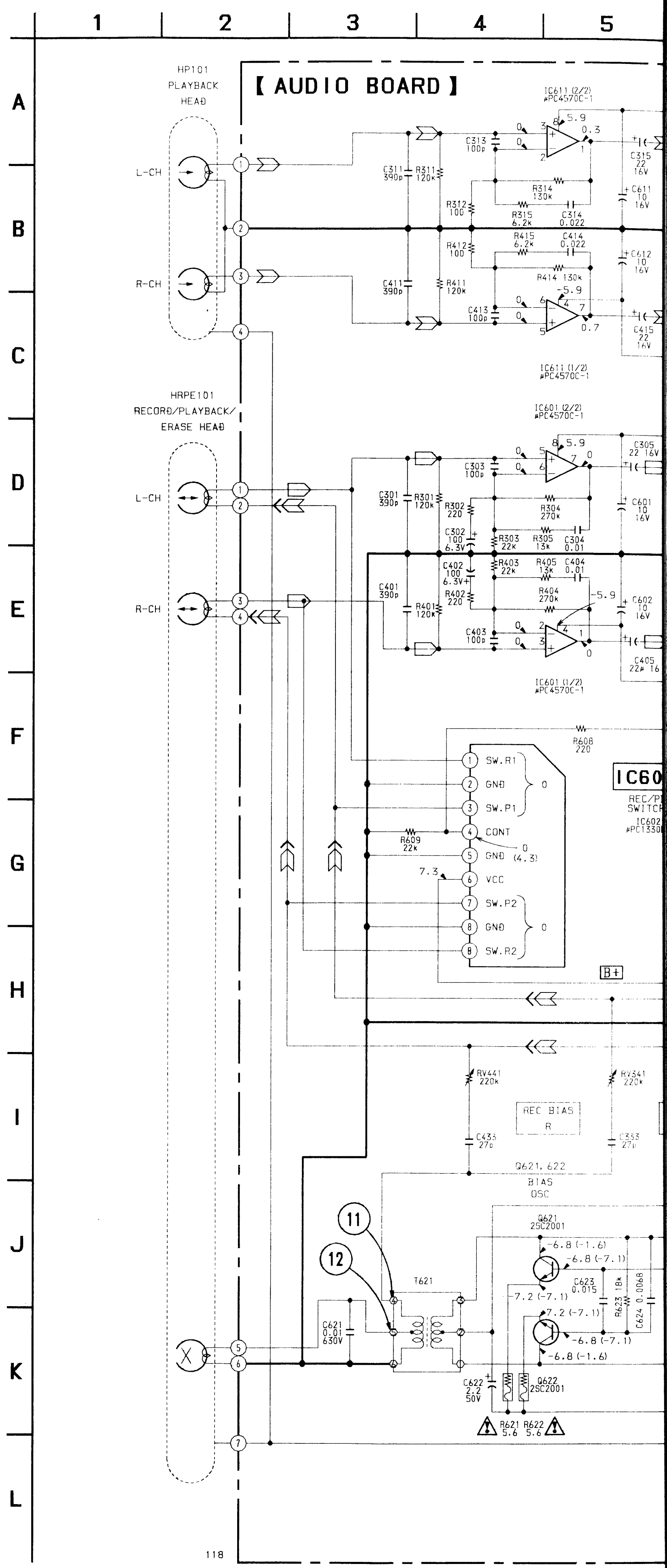
Ref. No.	Location
IC601	H - 3
IC602	G - 4
IC611	H - 9
Q621	H - 6
Q622	H - 6
Q623	H - 5
Q651	F - 9
Q1001	B - 2
Q1002	B - 6


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G
H
【LEAF SW BOARD】
1-650-669-
S1001 (A PLAY)
S1002 (B PLAY)
Q1001
Q1002
R1001
R1002
R1003
R1004
R1005
CN1001
S1003 S1004 (A HALF)(A CrO2)
S1005 (REC A)
S1006 (B HALF)
S1008 S1009 (B CrO2)(REC B)
MAIN BOARD CN402 (See page 27)
D
【MOTOR BOARD】
C651
M2 TRIGGER MOTOR
1-650-671-
21
(21)
HRPE101 RECORD PLAYBACK ERASE HEAD
L-CH
R-CH
HP101 PLAY BACK HEAD
(See page 27) MAIN BOARD CN401
C
M1 CAPSTAN MOTOR
YEL
BLU
WHT
RED
【AUDIO BOARD】
CN602
CN601
CN651
RV301
RV401
RV441
RV341
RV451
RV452
RV311
RV411
C435
C335
R431
C431
C331
R331
L431
L331
C432
C332
R409
IC602
R403
C405
R401
C404
R402
R405
R404
C403
C402
C401
IC601
R304
R305
C305
C302
C304
C301
R302
R301
C621
T621
C627
R625
C642
Q623
R622
R621
Q622
Q621
C622
C625
R624
C628
R623
C624
R451
R652
Q651
R653
R611
R612
C415
C315
C414
R415
R414
C611
C612
R411
C411
R412
C413
IC611
R311
C311
R312
C313
R314
R315
C314
1-650-671-
21
(21)

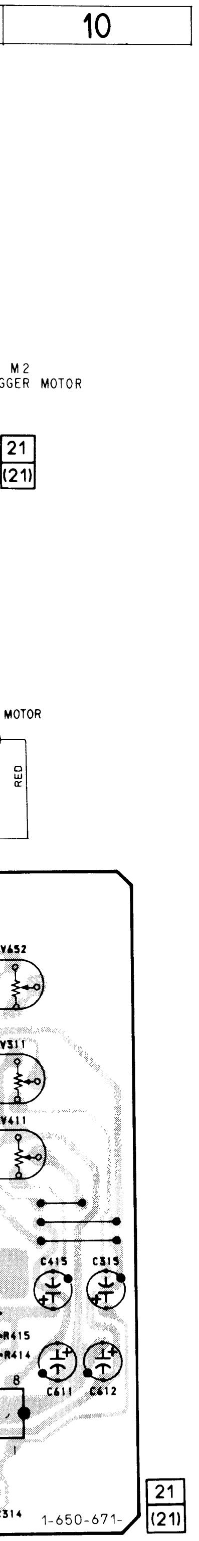
Note:

• ○— : parts extracted from the component side.

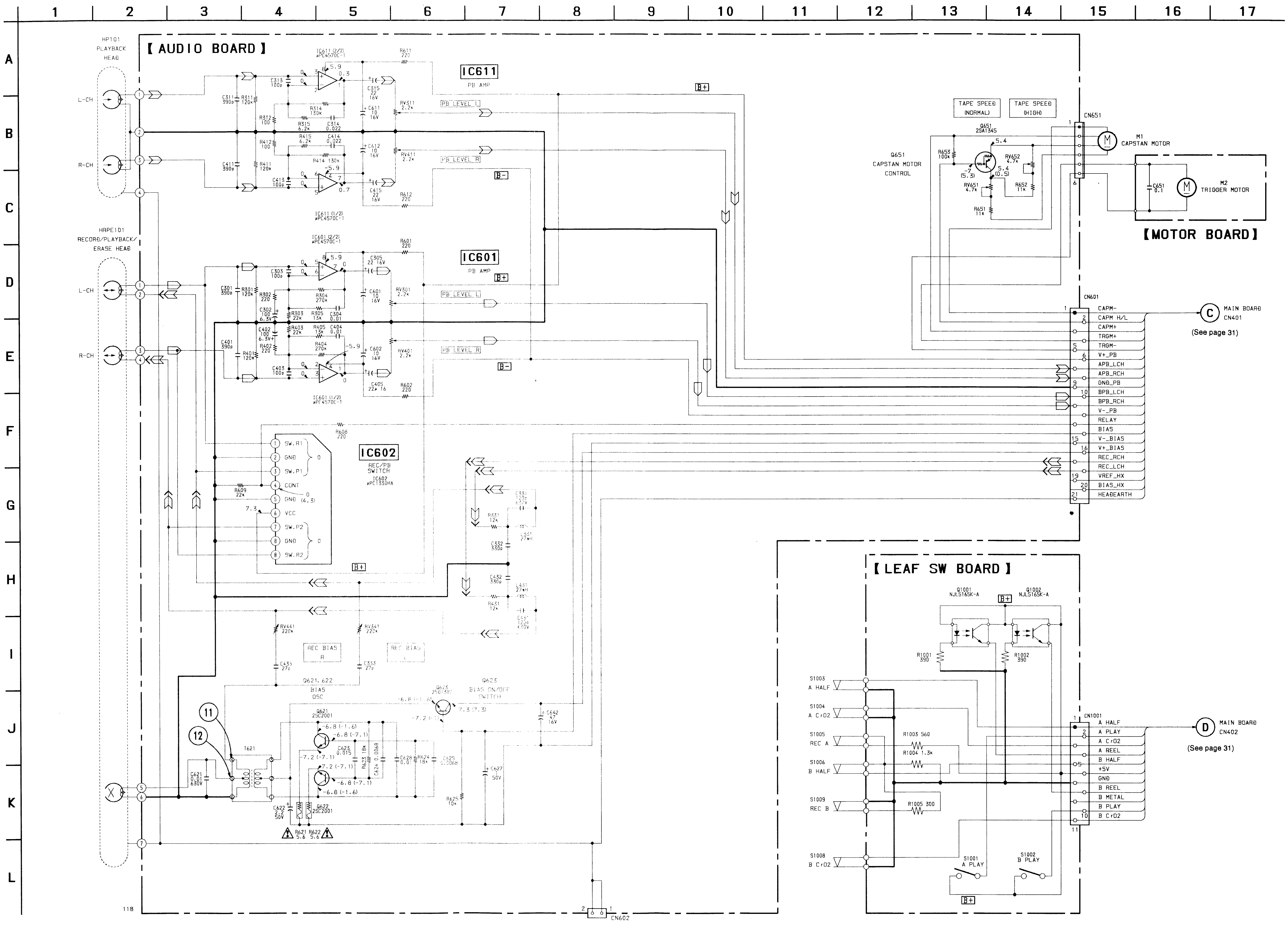
6-11. SCHEMATIC DIAGRAM – AUDIO SECTION –


1
2
3
4
5
A
B
C
D
E
F
G
H
I
J
K
L
HP101 PLAYBACK HEAD
L-CH
R-CH
【AUDIO BOARD】
IC611 (2/2) μPC4570C-1
C313 100p
C311 390p
R311 120k
R312 100
R314 120k
R315 6.2k
C314 0.022
C315 22 16V
C611 10 16V
R412 100
R415 6.2k
C414 0.022
R414 120k
C411 390p
R411 120k
C413 100p
C612 10 16V
C415 22 16V
IC611 (1/2) μPC4570C-1
HRPE101 RECORD/PLAYBACK/ERASE HEAD
IC601 (2/2) μPC4570C-1
C303 100p
C301 390p
R301 120k
R302 220
R304 270k
R305 13k
C304 0.01
C302 100 6.3V
R303 22k
C305 22 16V
C601 10 16V
C402 100 6.3V
R403 22k
R405 13k
C404 0.01
C401 390p
R401 120k
R402 220
R404 270k
C403 100p
C602 10 16V
C405 22μ 16
IC601 (1/2) μPC4570C-1
5.9
-5.9
0.3
0.7
R608 220
SW.R1
GND
SW.P1
CONT
GND (4.3)
VCC
SW.P2
GND
SW.R2
R609 22k
7.3
IC60
REC/P SWITC
IC602 μPC1330
B+
RV441 220k
RV341 220k
C435 27p
C335 27p
REC BIAS R
Q621, 622 BIAS OSC
11
12
T621
Q621 2SC2001
Q622 2SC2001
C621 0.01 630V
C622 2.2 50V
C623 0.015
R623 18k
C624 0.0068
R621 5.6
R622 5.6
-6.8 (-1.6)
-6.8 (-7.1)
-7.2 (-7.1)
7.2 (-7.1)
118

6-11. SCHEMATIC DIAGRAM – AUDIO SECTION –

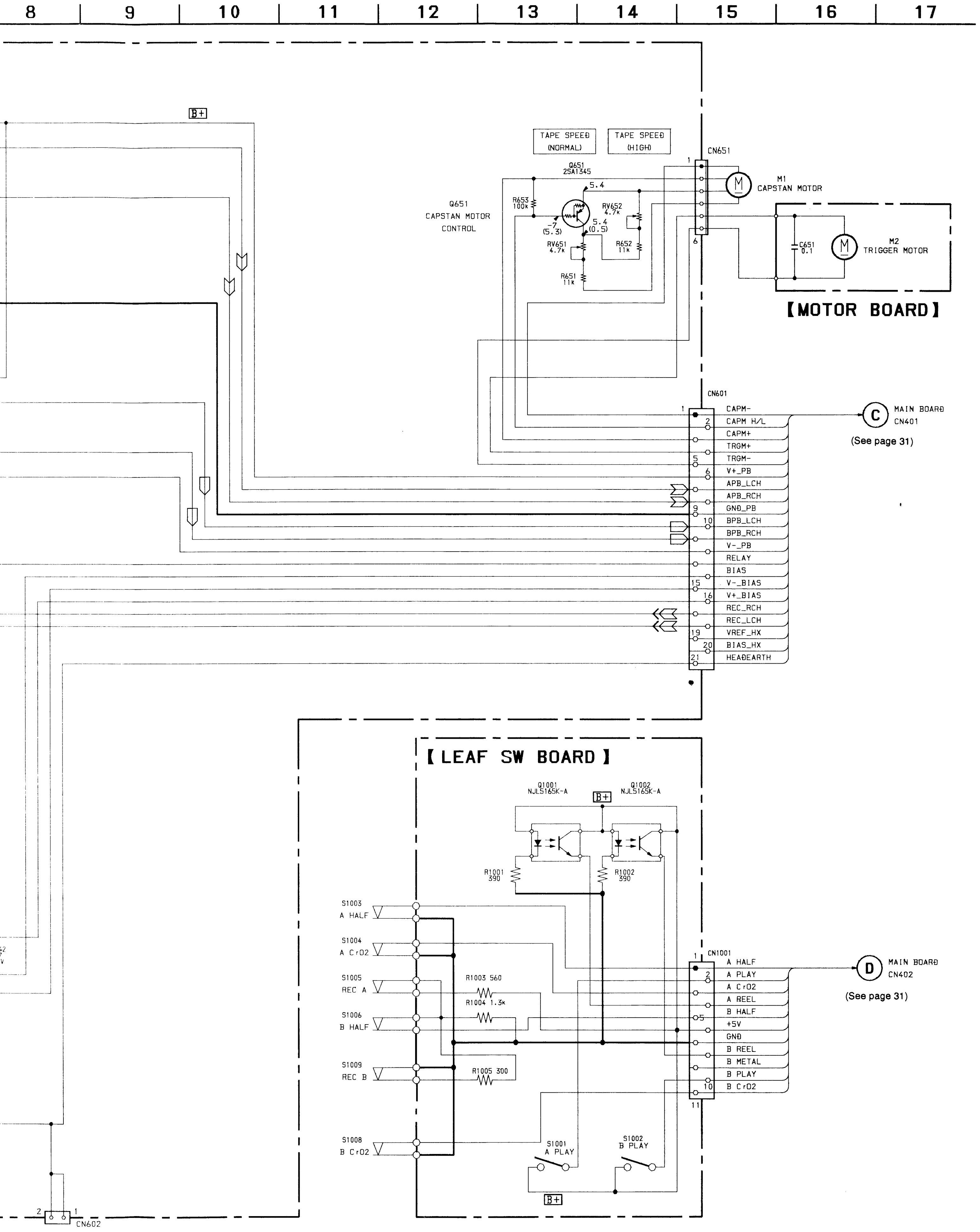


10
M2
GGER MOTOR
MOTOR
21
(21)
C415
C315
C611
C612
1-650-671-
21
(21)



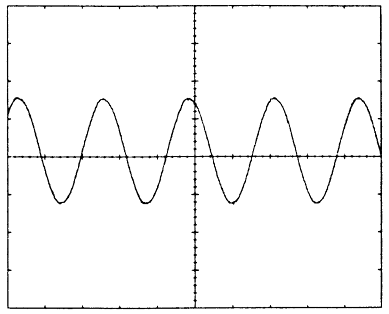
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
A B C D E F G H I J K L
HP101 PLAYBACK HEAD
L-CH
R-CH
【AUDIO BOARD】
IC611 PB AMP
IC611 (2/2) µPC4570C-1
IC611 (1/2) µPC4570C-1
PB_LEVEL_L
PB_LEVEL_R
HRPE101 RECORD/PLAYBACK/ERASE HEAD
IC601 PB AMP
IC601 (2/2) µPC4570C-1
IC601 (1/2) µPC4570C-1
IC602 REC/PB SWITCH
IC602 µPC1330HA
SW.R1
GND
SW.P1
CONT
VCC
SW.P2
SW.R2
REC BIAS R
REC BIAS L
Q621, 622 BIAS OSC
Q621 2SC2001
Q622 2SC2001
Q623 BIAS ON/OFF SWITCH
T621
TAPE SPEED (NORMAL)
TAPE SPEED (HIGH)
Q651 2SA1345
Q651 CAPSTAN MOTOR CONTROL
CN651
M1 CAPSTAN MOTOR
M2 TRIGGER MOTOR
【MOTOR BOARD】
CN601
CAPM-
CAPM H/L
CAPM+
TRGM+
TRGM-
V+_PB
APB_LCH
APB_RCH
GND_PB
BPB_LCH
BPB_RCH
V-_PB
RELAY
BIAS
V-_BIAS
V+_BIAS
REC_RCH
REC_LCH
VREF_HX
BIAS_HX
HEADEARTH
C MAIN BOARD CN401
(See page 31)
【LEAF SW BOARD】
Q1001 NJL5165K-A
Q1002 NJL5165K-A
S1003 A HALF
S1004 A CrO2
S1005 REC A
S1006 B HALF
S1009 REC B
S1008 B CrO2
S1001 A PLAY
S1002 B PLAY
CN1001
A HALF
A PLAY
A CrO2
A REEL
B HALF
+5V
GND
B REEL
B METAL
B PLAY
B CrO2
D MAIN BOARD CN402
(See page 31)
CN602
B+
B-
11
12
118

Note :
• All ca
50WV
tanta
• All re
speci
Note
• B+
• B-
• Volta
no-si
no m
(
• Volta
Volta
tolera
• Wave
Volta
tolera
• Circle
• Signa

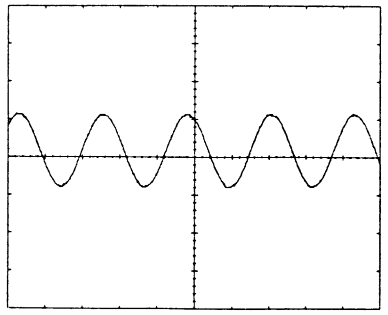

8
9
10
11
12
13
14
15
16
17
B+
TAPE SPEED (NORMAL)
TAPE SPEED (HIGH)
Q651 2SA1345
Q651 CAPSTAN MOTOR CONTROL
R653 100k
5.4
-7 (5.3)
5.4 (0.5)
RV652 4.7k
RV651 4.7k
R652 11k
R651 11k
CN651
M1 CAPSTAN MOTOR
C651 0.1
M2 TRIGGER MOTOR
【MOTOR BOARD】
CN601
CAPM-
CAPM H/L
CAPM+
TRGM+
TRGM-
V+_PB
APB_LCH
APB_RCH
GND_PB
BPB_LCH
BPB_RCH
V-_PB
RELAY
BIAS
V-_BIAS
V+_BIAS
REC_RCH
REC_LCH
VREF_HX
BIAS_HX
HEADEARTH
C
MAIN BOARD CN401
(See page 31)
【LEAF SW BOARD】
Q1001 NJL5165K-A
Q1002 NJL5165K-A
R1001 390
R1002 390
S1003 A HALF
S1004 A CrO2
S1005 REC A
S1006 B HALF
S1009 REC B
S1008 B CrO2
R1003 560
R1004 1.3k
R1005 300
S1001 A PLAY
S1002 B PLAY
CN1001
A HALF
A PLAY
A CrO2
A REEL
B HALF
+5V
GND
B REEL
B METAL
B PLAY
B CrO2
D
MAIN BOARD CN402
(See page 31)
CN602

• WAVEFORMS

⑪ T621 141Vp-p 88.1kHz

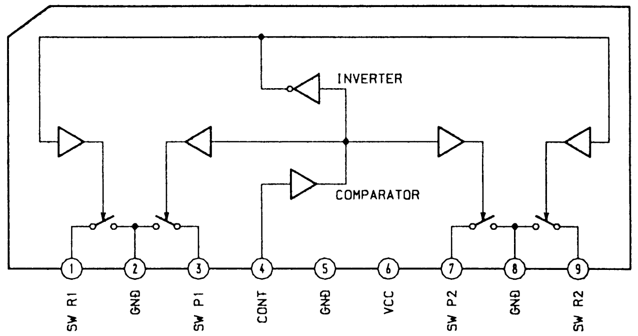


⑫ T621 39.2Vp-p 88.1kHz



• IC BLOCK DIAGRAMS – AUDIO SECTION –

IC602 μPC1330HA


INVERTER
COMPARATOR
1
2
3
4
5
6
7
8
9
SW R1
GND
SW P1
CONT
GND
VCC
SW P2
GND
SW R2

Note :

- All capacitors are in μ F unless otherwise noted. pF: μ μ F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- -W∿- : fusible resistor.

> **Note :** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
> Replace only with part number specified.

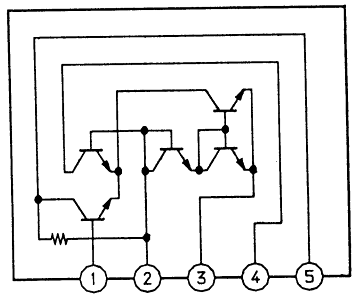
- B+ : B+ Line
- B – : B – Line
- ☐ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal (TC) conditions.

  no mark : PLAY

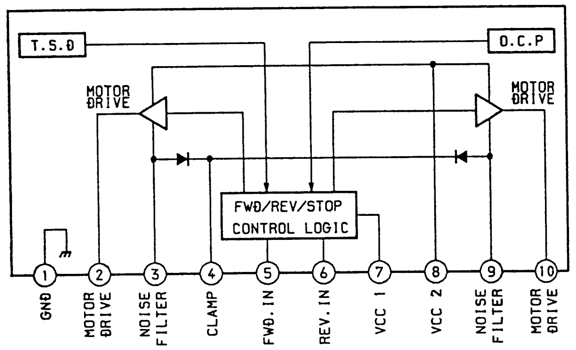
  (   ) : REC
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  - ⪢ : PB (DECK A)
  - ⫸ : REC (DECK B)
  - ▷ : PB (DECK B)

6-12. IC BLOCK DIAGRAMS – MAIN SECTION –

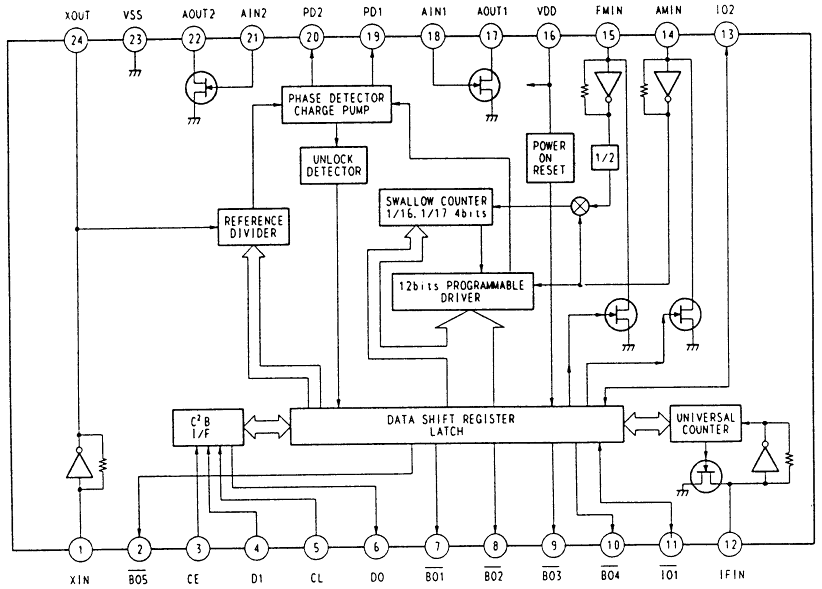
IC1, 2 TA7060AP



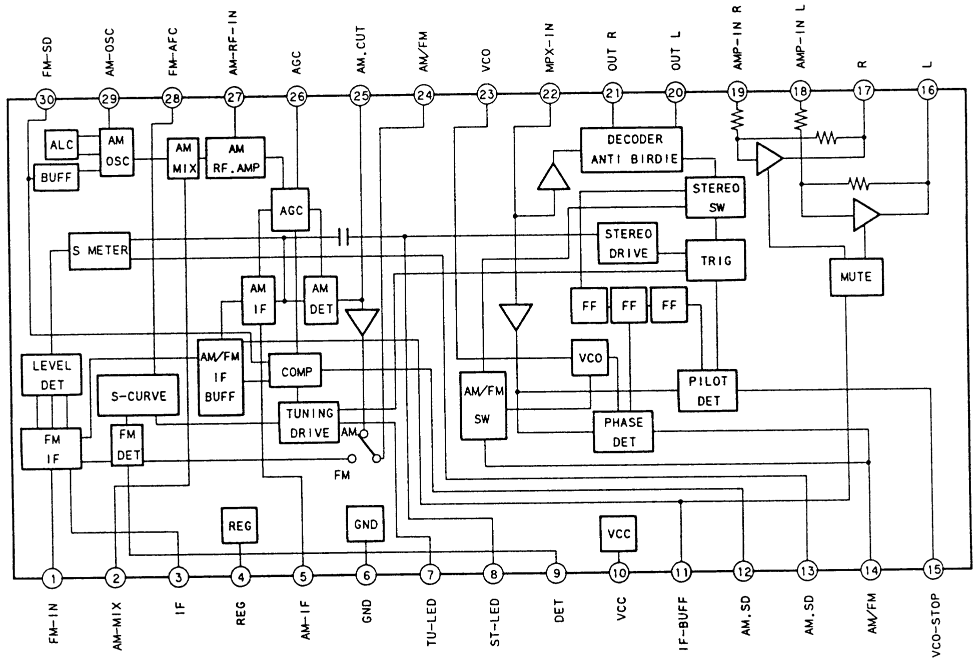
IC105, 402 LB1641


T.S.D
O.C.P
MOTOR DRIVE
MOTOR DRIVE
FWD/REV/STOP CONTROL LOGIC
GND
MOTOR DRIVE
NOISE FILTER
CLAMP
FWD. IN
REV. IN
VCC 1
VCC 2
NOISE FILTER
MOTOR DRIVE

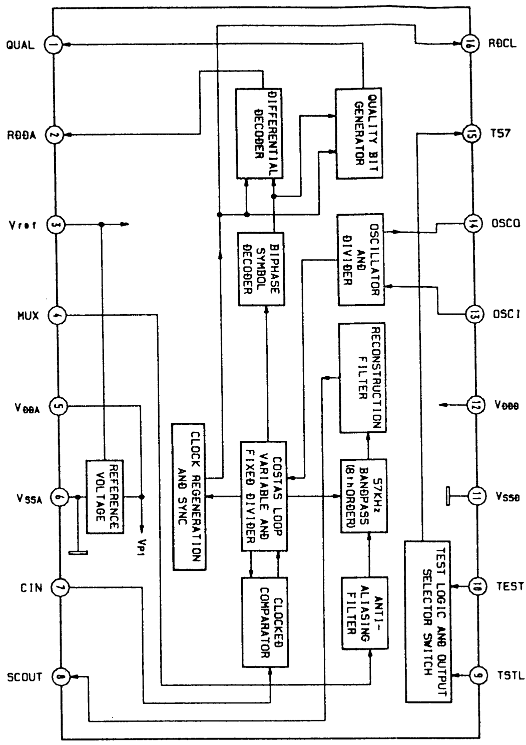
IC21 LC72130


XOUT
VSS
AOUT2
AIN2
PD2
PD1
AIN1
AOUT1
VDD
FMIN
AMIN
IO2
PHASE DETECTOR CHARGE PUMP
UNLOCK DETECTOR
POWER ON RESET
1/2
REFERENCE DIVIDER
SWALLOW COUNTER 1/16, 1/17 4bits
12bits PROGRAMMABLE DRIVER
C²B I/F
DATA SHIFT REGISTER LATCH
UNIVERSAL COUNTER
XIN
BOS
CE
DI
CL
DO
BO1
BO2
BO3
BO4
IO1
IFIN

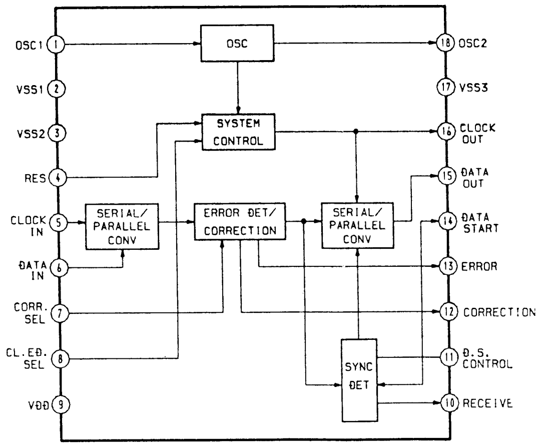
IC41 LA1835


FM-SD
AM-OSC
FM-AFC
AM-RF-IN
AGC
AM,CUT
AM/FM
VCO
MPX-IN
OUT R
OUT L
AMP-IN R
AMP-IN L
R
L
ALC
AM OSC
BUFF
AM MIX
AM RF.AMP
AGC
S METER
DECODER ANTI BIRDIE
STEREO SW
STEREO DRIVE
TRIG
MUTE
AM IF
AM DET
FF
FF
FF
VCO
LEVEL DET
S-CURVE
AM/FM IF BUFF
COMP
TUNING DRIVE
AM
FM
AM/FM SW
PHASE DET
PILOT DET
FM IF
FM DET
REG
GND
VCC
FM-IN
AM-MIX
IF
REG
AM-IF
GND
TU-LED
ST-LED
DET
VCC
IF-BUFF
AM,SD
AM,SD
AM/FM
VCO-STOP

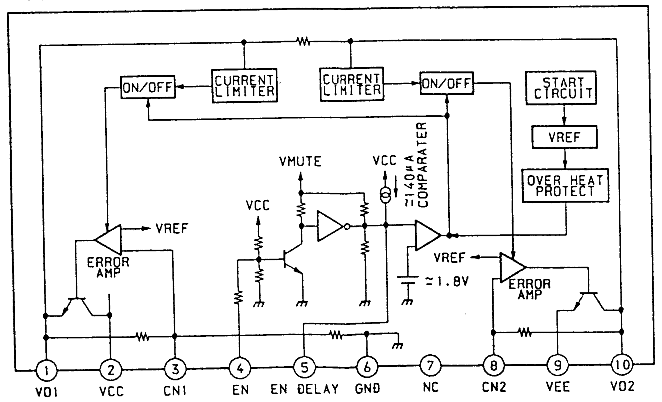
IC82 SAA6579


QUAL
RDDA
Vref
MUX
VDDA
VSSA
CIN
SCOUT
RDCL
TS7
OSCO
OSCI
VDDD
VSSD
TEST
TSTLD
DIFFERENTIAL DECODER
QUALITY BIT GENERATOR
BIPHASE SYMBOL DECODER
OSCILLATOR AND DIVIDER
RECONSTRUCTION FILTER
REFERENCE VOLTAGE
CLOCK REGENERATION AND SYNC
COSTAS LOOP VARIABLE AND FIXED DIVIDER
57kHz BANDPASS (8th ORDER)
CLOCKED COMPARATOR
ANTI-ALIASING FILTER
TEST LOGIC AND OUTPUT SELECTOR SWITCH
Vref

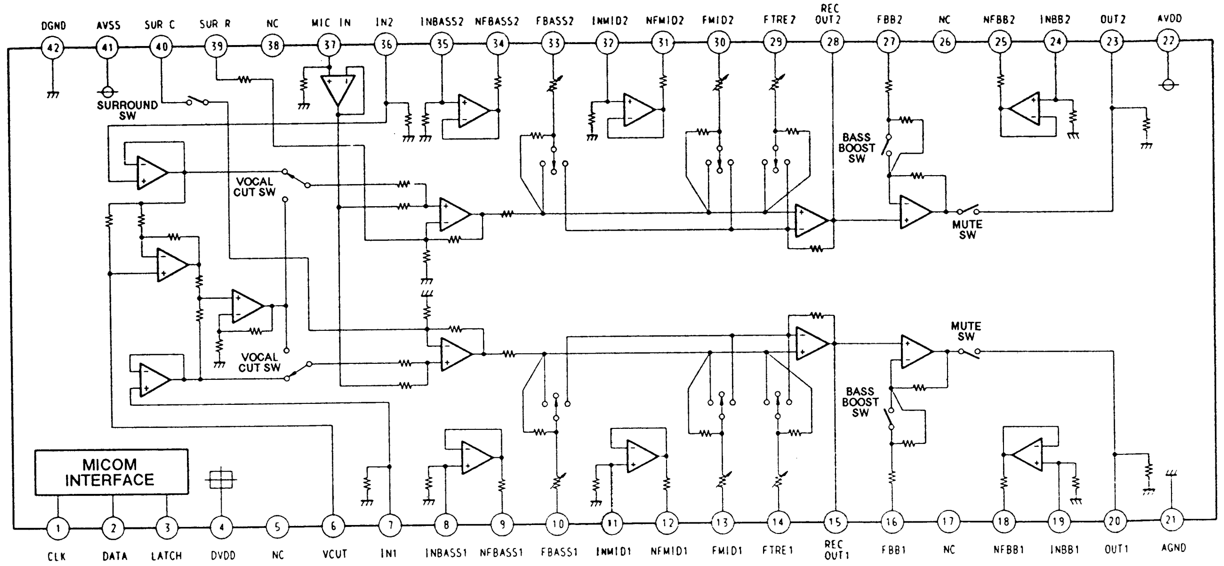
IC83 LC7073M


OSC1
VSS1
VSS2
RES
CLOCK IN
DATA IN
CORR. SEL
CL.ED. SEL
VDD
OSC2
VSS3
CLOCK OUT
DATA OUT
DATA START
ERROR
CORRECTION
B.S. CONTROL
RECEIVE
OSC
SYSTEM CONTROL
SERIAL/ PARALLEL CONV
ERROR DET/ CORRECTION
SERIAL/ PARALLEL CONV
SYNC DET

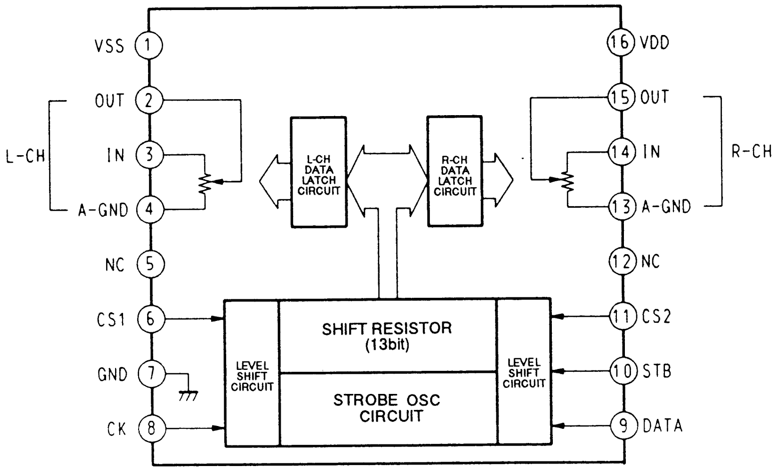
IC804 LA5617


ON/OFF
CURRENT LIMITER
CURRENT LIMITER
ON/OFF
START CIRCUIT
VREF
OVER HEAT PROTECT
VMUTE
VCC
VCC
VCC
≒140mV
COMPARATER
VREF
VREF
ERROR AMP
ERROR AMP
≒1.8V
VO1
VCC
CN1
EN
EN DELAY
GND
NC
CN2
VEE
VO2

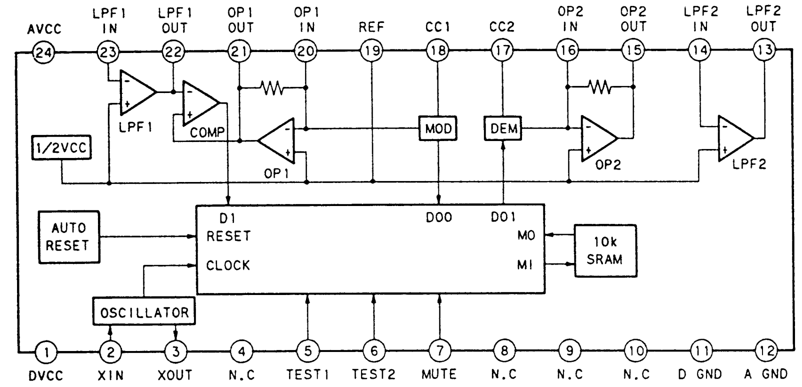
IC108 M62423FP


DGND
AVSS
SUR C
SUR R
NC
MIC IN
IN2
INBASS2
NFBASS2
FBASS2
INMID2
NFMID2
FMID2
FTRE2
REC OUT2
FBB2
NC
NFBB2
INBB2
OUT2
AVDD
SURROUND SW
VOCAL CUT SW
VOCAL CUT SW
BASS BOOST SW
BASS BOOST SW
MUTE SW
MUTE SW
MICOM INTERFACE
CLK
DATA
LATCH
DVDD
NC
VCUT
IN1
INBASS1
NFBASS1
FBASS1
INMID1
NFMID1
FMID1
FTRE1
REC OUT1
FBB1
NC
NFBB1
INBB1
OUT1
AGND

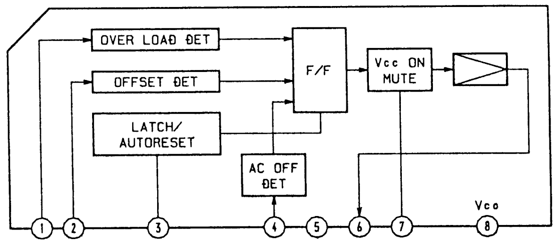
IC109 TC9210P


VSS
OUT
IN
A-GND
NC
CS1
GND
CK
VDD
OUT
IN
A-GND
NC
CS2
STB
DATA
L-CH
R-CH
L-CH DATA LATCH CIRCUIT
R-CH DATA LATCH CIRCUIT
SHIFT RESISTOR (13bit)
STROBE OSC CIRCUIT
LEVEL SHIFT CIRCUIT
LEVEL SHIFT CIRCUIT

IC701 M65843FP


AVCC
LPF1 IN
LPF1 OUT
OP1 OUT
OP1 IN
REF
CC1
CC2
OP2 IN
OP2 OUT
LPF2 IN
LPF2 OUT
1/2VCC
LPF1
COMP
OP1
MOD
DEM
OP2
LPF2
AUTO RESET
DI
RESET
CLOCK
DOO
DO1
MO
MI
10k SRAM
OSCILLATOR
DVCC
XIN
XOUT
N.C
TEST1
TEST2
MUTE
N.C
N.C
N.C
D GND
A GND

IC801 µPC1237HA


OVER LOAD DET
OFFSET DET
LATCH/ AUTORESET
AC OFF DET
F/F
Vcc ON MUTE
Vcc

SECTION 7
EXPLODED VIEWS

NOTE :
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Color indication of Appearance Parts Example :
  KNOB, BALANCE (WHITE)....(RED)
  ↑ ↑
  Parts color Cabinet's color

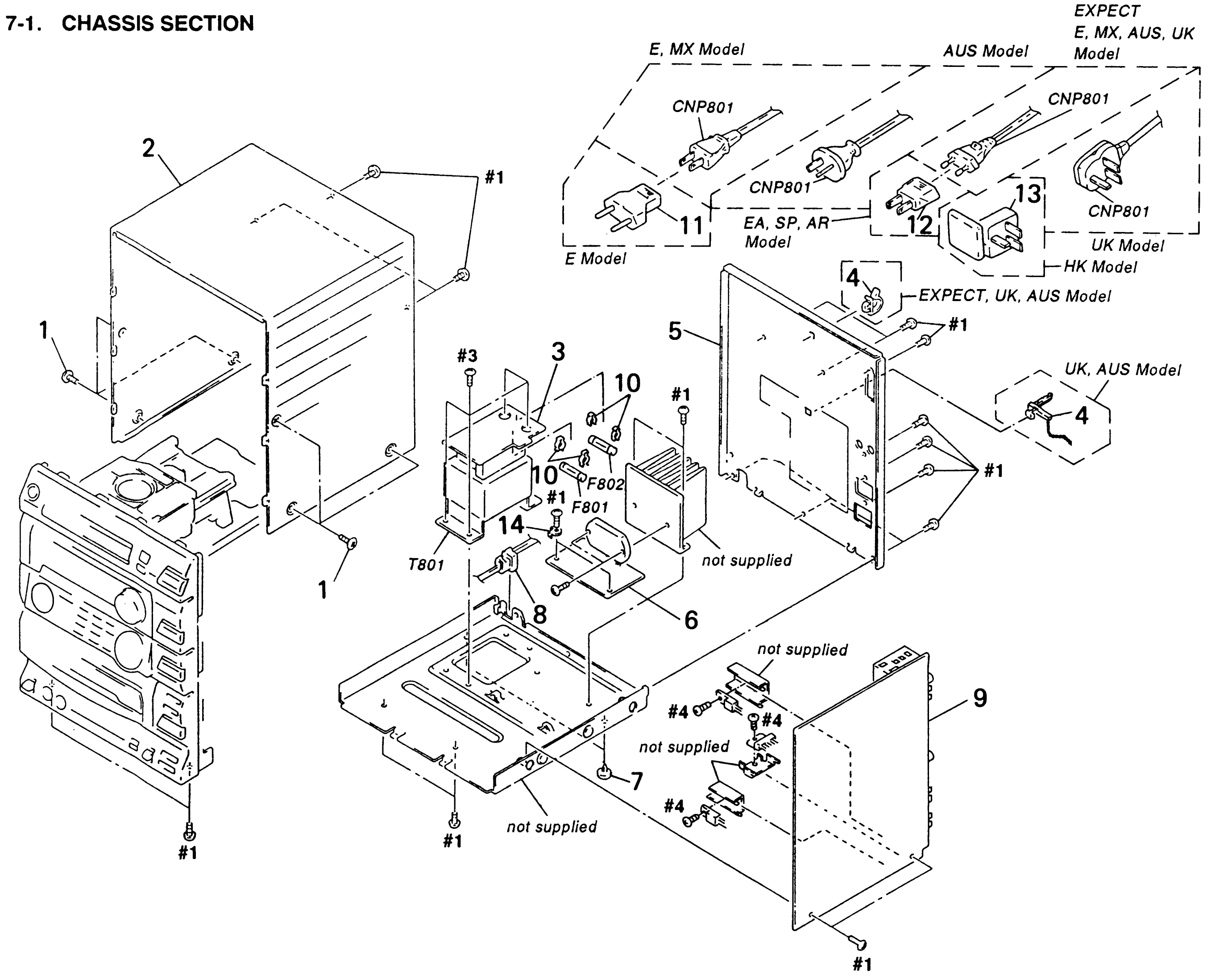
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- Abbreviations

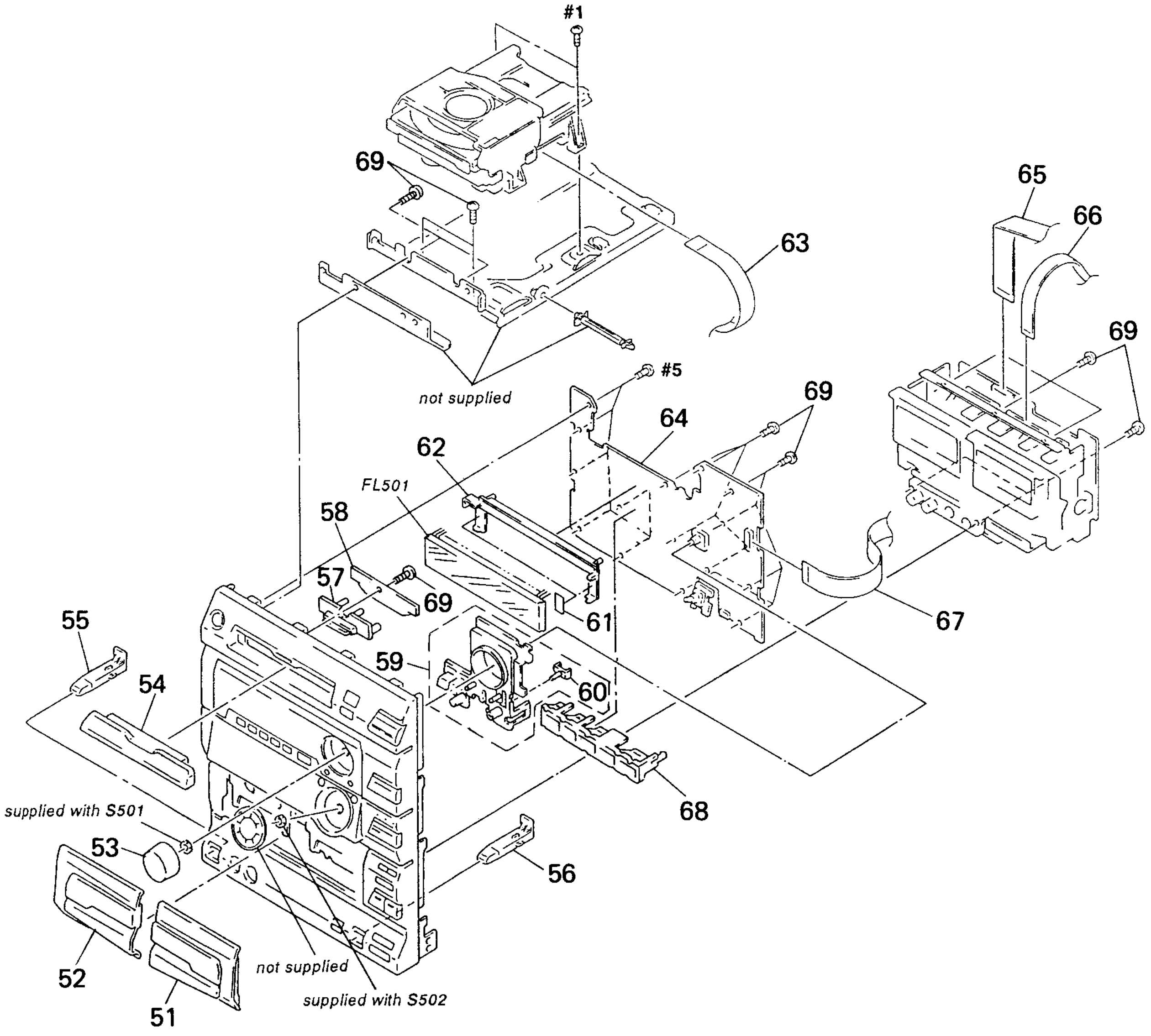
G : German
IT : Italian
EE : East European
AUS : Australian
EA : Saudi Arabia
AR : Argentine
HK : Hong Kong
MX : Mexican
MY : Malaysia
SP : Singapore

7-1. CHASSIS SECTION



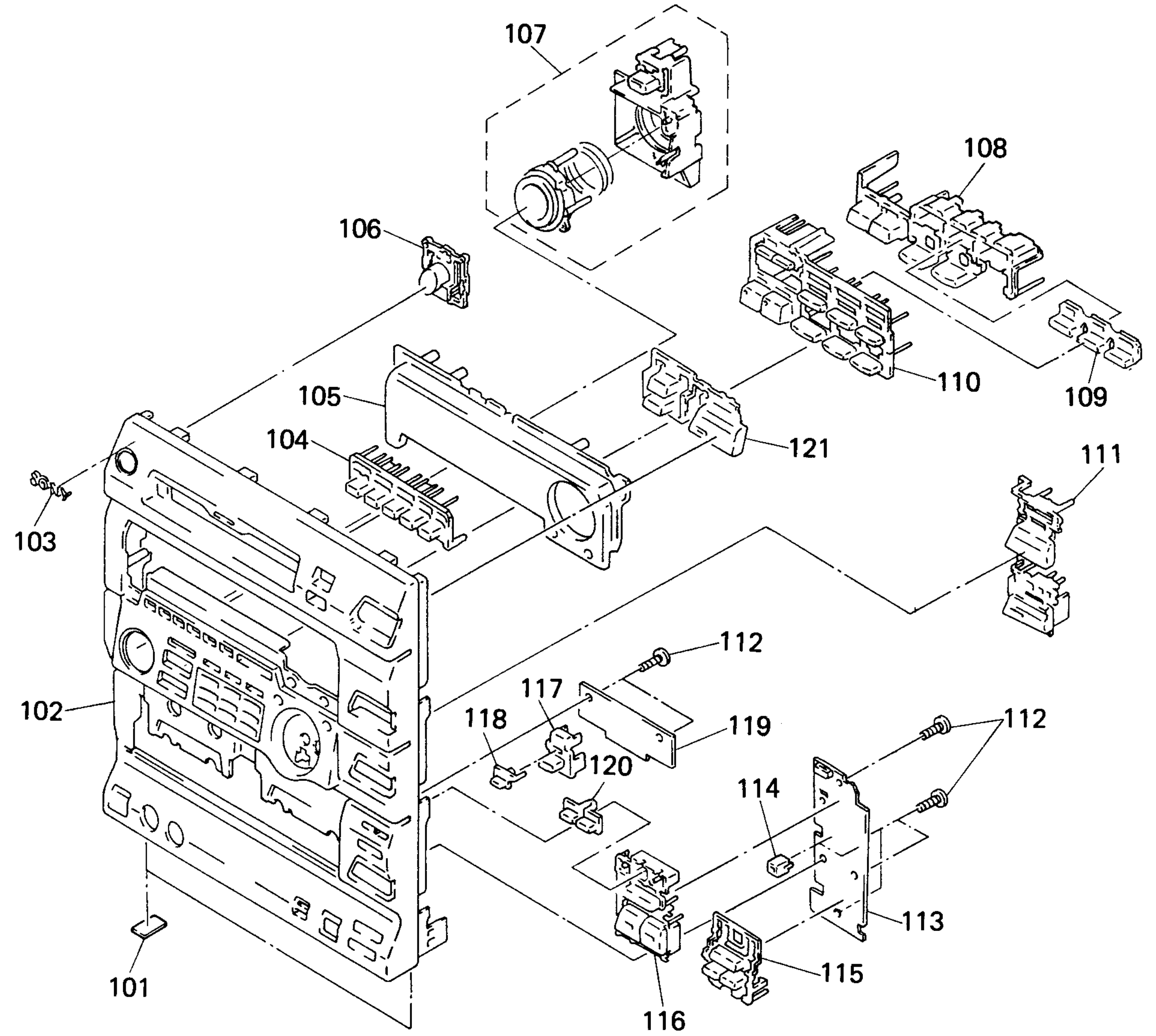
Ref. No.	Part No.	Description	Remark
1	3-363-099-01	SCREW (CASE 3 TP2)	
2	4-971-899-11	CASE (AEP, UK, G, IT, EE, E, EA, SP, MY, HK, MX, AR, AUS)	
* 3	1-655-373-11	TRANSFORMER BOARD	
* 4	4-949-235-01	HOOK (AEP, G, IT, EE, E, EA, SP, MY, HK, MX, AR)	
4	4-956-370-12	BAND, PLUG FIXED (UK, AUS)	
* 5	4-971-977-01	PANEL, BACK (AE1)	
* 5	4-971-977-11	PANEL, BACK (AE2)	
* 5	4-971-977-21	PANEL, BACK (IT)	
* 5	4-971-977-31	PANEL, BACK (G)	
* 5	4-971-977-41	PANEL, BACK (UK2)	
* 5	4-971-977-51	PANEL, BACK (EE)	
* 5	4-971-977-61	PANEL, BACK (AE1)	
* 5	4-971-977-71	PANEL, BACK (UK1)	
* 5	4-971-978-01	PANEL, BACK (E)	
* 5	4-971-978-11	PANEL, BACK (EA)	
* 5	4-971-978-21	PANEL, BACK (AUS)	
* 5	4-971-978-31	PANEL, BACK (SP)	
* 5	4-971-978-41	PANEL, BACK (MX)	
* 5	4-971-978-51	PANEL, BACK (MY)	
* 5	4-971-978-61	PANEL, BACK (AR)	
* 5	4-971-978-71	PANEL, BACK (HK)	
* 6	A-4377-339-A	POWER AMP BOARD, COMPLETE (AE1, EE)	
* 6	A-4377-351-A	POWER AMP BOARD, COMPLETE (AE2, UK, G, IT)	
* 6	A-4377-354-A	POWER AMP BOARD, COMPLETE (E, EA, SP, MY, HK, MX, AR, AUS)	
7	4-965-822-12	FOOT	
* 8	3-703-244-00	BUSHING (2104), CORD (AEP, UK, G, IT, EE, EA, SP, MY, HK, AR, AUS)	
8	3-703-571-11	BUSHING (S) (4516), CORD (E, MX)	
* 9	A-4377-344-A	MAIN BOARD, COMPLETE (AE1)	
* 9	A-4377-346-A	MAIN BOARD, COMPLETE (EE)	
* 9	A-4377-348-A	MAIN BOARD, COMPLETE (G)	
* 9	A-4377-349-A	MAIN BOARD, COMPLETE (IT)	
* 9	A-4377-353-A	MAIN BOARD, COMPLETE (AE2)	
* 9	A-4377-357-A	MAIN BOARD, COMPLETE (E2, MX, AR)	
* 9	A-4377-358-A	MAIN BOARD, COMPLETE (E3, SP, MY, HK)	
* 9	A-4377-359-A	MAIN BOARD, COMPLETE (EA)	
* 9	A-4377-360-A	MAIN BOARD, COMPLETE (AUS)	
* 9	A-4377-361-A	MAIN BOARD, COMPLETE (UK)	
10	1-533-293-11	FUSE HOLDER	
11	1-569-007-11	ADAPTER, CONVERSION 2P (E)	
12	1-569-008-11	ADAPTER, CONVERSION 2P (EA, SP, AR)	
13	1-770-019-11	ADAPTOR, CONVERSION (HK)	
* 14	4-942-204-01	PLATE, GROUND	
⚠CNP801	1-575-651-11	CORD, POWER (AEP, G, IT, EE, EA, SP, MY, HK, AR)	
⚠CNP801	1-575-653-11	CORD, POWER (E, MX)	
⚠CNP801	1-696-847-11	CORD, POWER (AUS)	
⚠CNP801	1-751-520-21	CORD, POWER (UK)	
⚠F801	1-532-237-00	FUSE (3.15A/250V) (E, EA, SP, HK, MX, AR)	
⚠F802	1-532-078-00	FUSE, TIME-LAG (1A/250V) (AEP, UK, G, IT, EE)	
⚠F802	1-532-259-00	FUSE (1.6A/250V) (E, EA, SP, MY, HK, AR, AUS)	
⚠T801	1-427-794-12	TRANSFORMER, POWER (AEP, G, IT, EE, UK)	
⚠T801	1-427-795-11	TRANSFORMER, POWER (E, EA, AR, HK, MX, MY, SP, AUS)	

7-2. FRONT PANEL SECTION-1


#1
69
65
66
63
69
#5
not supplied
69
64
62
FL501
58
57
69
61
67
55
54
59
60
68
supplied with S501
53
56
52
not supplied
supplied with S502
51

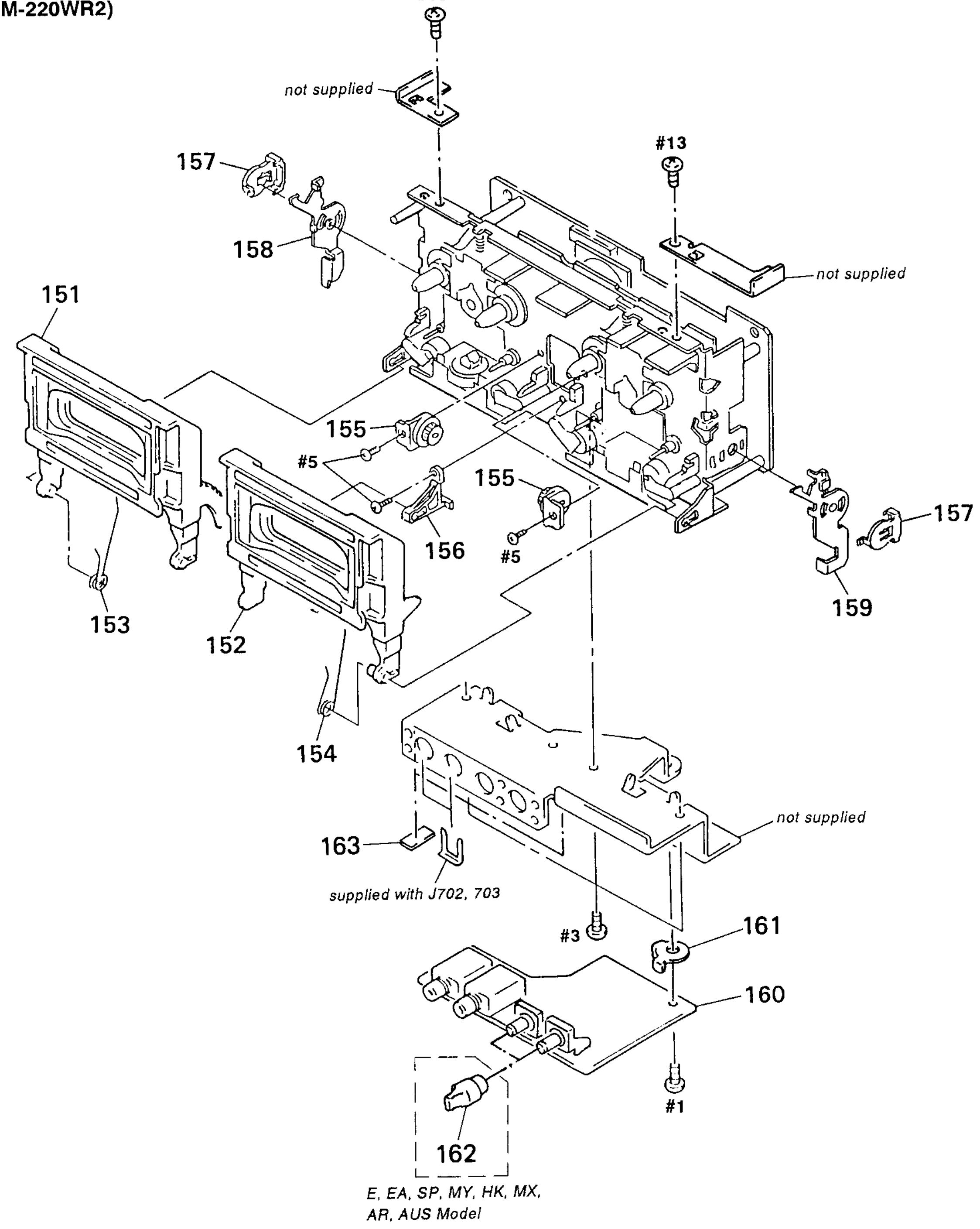
Ref. No.	Part No.	Description	Remark
51	X-4945-667-1	LID (A) ASSY, CASSETTE	
52	X-4945-668-1	LID (B) ASSY, CASSETTE	
53	4-973-774-01	KNOB (VOL)	
54	4-971-955-01	PANEL, LOADING	
55	4-971-956-01	BUTTON (EJ-A)	
56	4-971-957-01	BUTTON (EJ-B)	
57	4-971-908-01	INDICATOR (CD)	
* 58	1-655-368-11	CD-LED BOARD	
59	X-4945-675-1	BRACKET (VOL) ASSY	
60	4-970-872-11	INDICATOR (E/N)	
61	4-932-810-21	CUSHION(FL)	
* 62	4-971-014-11	HOLDER, FL TUBE	
63	1-654-751-11	FLEXIBLE BOARD	
* 64	A-4377-338-A	PANEL BOARD, COMPLETE (E, EA, SP, MY, HK, MX, AR, AUS)	
* 64	A-4377-350-A	PANEL BOARD, COMPLETE (AEP, UK, G, IT, EE)	
65	1-769-689-31	WIRE (FLAT TYPE) (21 CORE)	
66	1-769-688-31	WIRE (FLAT TYPE) (11 CORE)	
67	1-769-690-31	WIRE (FLAT TYPE) (17 CORE)	
68	4-971-914-01	HOLDER, LED	
69	4-951-620-01	SCREW (2.6×8), +BVTP	
FL501	1-517-341-21	INDICATOR TUBE, FLUORESCENT	

7-3. FRONT PANEL SECTION-2



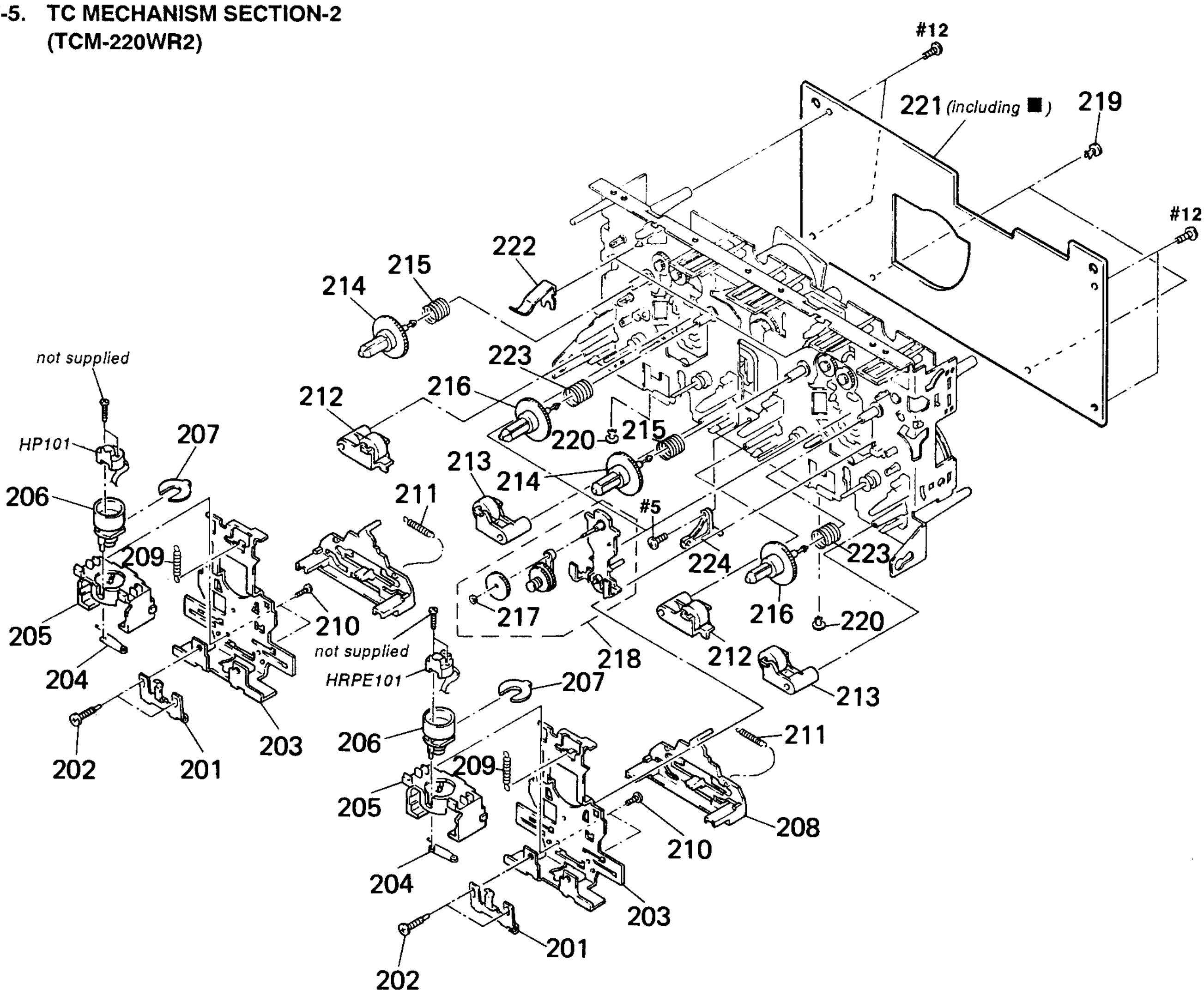
Ref. No.	Part No.	Description	Remark
101	4-930-336-81	FOOT (FELT)	
102	4-971-901-01	PANEL, FRONT (AEP, UK, G, IT, EE)	
102	4-971-901-11	PANEL, FRONT (E, EA, SP, MY, HK, MX, AR, AUS)	
103	4-962-708-11	EMBLEM (4-A), SONY	
104	4-971-905-01	BUTTON (EQ) (AEP, UK, G, IT, EE, E3, EA, SP, MY, HK, AUS)	
104	4-971-905-11	BUTTON (EQ) (E2, MX, AR)	
105	4-971-902-01	WINDOW (FLD)	
106	4-971-913-01	BUTTON (POWER)	
107	X-4945-674-1	BUTTON (CURSOR) ASSY (AEP, UK, G, IT, EE)	
107	X-4946-055-1	BUTTON (CURSOR) ASSY (E, EA, SP, MY, HK, MX, AR, AUS)	
108	4-971-907-01	BUTTON (STR-B)	
109	4-972-098-01	INDICATOR (FUNCTION) (AEP, UK, G, IT, EE, E3, EA, SP, MY, HK, AUS)	
110	X-4945-673-1	BUTTON (STR-A) ASSY	
111	X-4945-672-1	BUTTON (F/T) ASSY	
112	4-951-620-01	SCREW (2.6×8), +BVTP	
* 113	1-655-369-11	TC SWITCH BOARD	
114	3-362-478-01	HOLDER (T), LED	
115	4-972-642-01	BUTTON (TC-STOP)	
116	X-4945-676-1	BUTTON (TC-PLAY) ASSY	
117	4-970-880-11	BUTTON (KARAOKE)	
118	4-970-881-11	INDICATOR (KARAOKE)	
* 119	1-655-370-11	KARAOKE SWITCH BOARD	
120	4-970-882-11	INDICATOR (A/B)	
121	X-4945-671-1	BUTTON (CD) ASSY	

7-4. TC MECHANISM SECTION-1
(TCM-220WR2)


#13
not supplied
157
158
#13
not supplied
151
155
#5
155
156
#5
157
159
153
152
154
not supplied
163
supplied with J702, 703
#3
161
160
#1
162
E, EA, SP, MY, HK, MX,
AR, AUS Model

	Ref. No.	Part No.	Description	Remark
	151	X-4945-690-1	HOLDER (L) ASSY, CASSETTE	
	152	X-4945-691-1	HOLDER (R) ASSY, CASSETTE	
	153	4-959-231-11	SPRING (L), TORSION	
	154	4-959-232-11	SPRING (R), TORSION	
	155	3-354-963-01	DAMPER	
*	156	3-908-611-01	FULCRUM, HOLDER	
	157	3-354-957-01	JOINT (LOCK LEVER)	
	158	3-367-709-21	LEVER (LOCK LEVER L)	
*	159	4-965-877-11	LEVER (LOCK LEVER R)	
*	160	A-4377-340-A	HP/MIC BOARD, COMPLETE (AE1, EE)	
*	160	A-4377-352-A	HP/MIC BOARD, COMPLETE (AE2, G, IT, UK)	
*	160	A-4377-355-A	HP/MIC BOARD, COMPLETE (E, EA, SP, MY, HK, MX, AR, AUS)	
*	161	4-942-204-01	PLATE, GROUND	
	162	4-973-644-01	KNOB (MIC) (E, EA, SP, MY, HK, MX, AR, AUS)	
*	163	4-923-383-01	SHEET (B)	

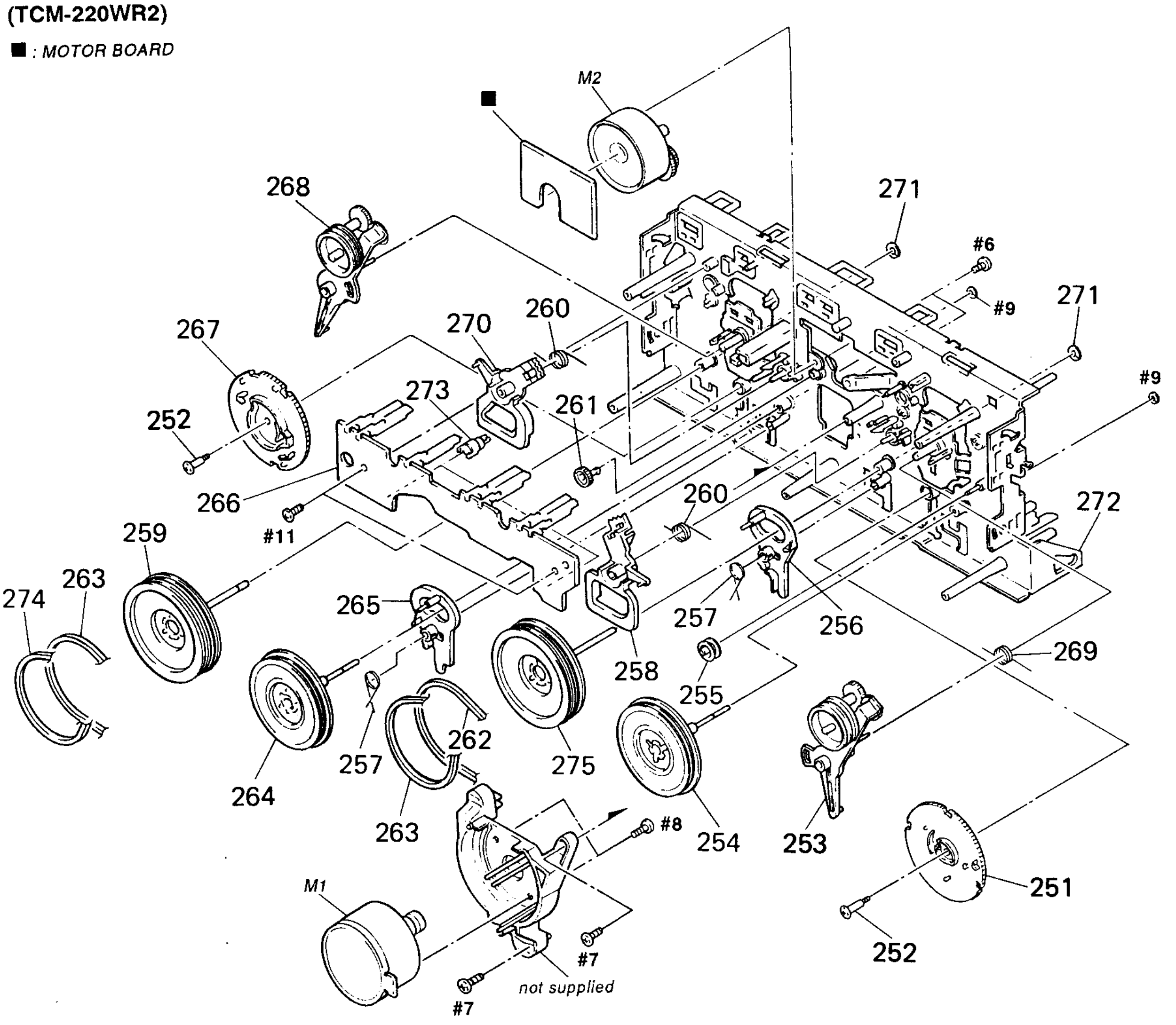
7-5. TC MECHANISM SECTION-2 (TCM-220WR2)


#12
221 (including ■)
219
#12
222
215
214
not supplied
223
216
212
HP101
207
220
215
213
214
206
211
#5
209
224
223
217
216
220
205
210
not supplied
HRPE101
218
212
213
204
207
202
201
203
206
211
209
205
208
210
204
203
201
202

Ref. No.	Part No.	Description	Remark
201	3-908-560-01	SPRING, AZIMUTH ADJUSTMENT	
202	3-919-684-01	SCREW, AZIMUTH ADJUSTMENT	
* 203	X-3367-584-2	SLIDER (HEAD) ASSY	
204	3-908-556-01	SPRING, HEAD TOGGLE	
205	3-908-558-02	FITTING BLOCK, HEAD	
206	3-908-557-02	ROTARY BLOCK, HEAD	
* 207	3-908-559-01	STOPPER, AZIMUTH	
208	3-908-555-01	SLIDER (REV SLIDER)	
209	3-917-143-01	SPRING, TENSION	
210	3-388-848-01	SCREW (P2×6) (B TIGHT)	
211	3-911-113-01	SPRING, TENSION	
212	X-3367-589-1	PINCH LEVER (REV) ASSY	
213	X-3367-588-1	PINCH LEVER (FWD) ASSY	
214	3-908-613-01	GEAR (S), REEL	
215	3-917-141-01	SPRING, COMPRESSION	
216	X-3367-594-1	REEL (T) ASSY	
217	3-669-465-01	WASHER (1.5), STOPPER	
218	X-3370-173-1	TU ASSY	
219	3-911-116-21	RIVET, PUSH	
220	3-911-116-31	RIVET, PUSH	
* 221	A-2007-253-A	AUDIO BOARD, COMPLETE	
222	3-915-490-01	DETENT, HALF	
223	3-917-142-01	SPRING, COMPRESSION	
* 224	3-908-611-01	FULCRUM, HOLDER	
HP101	1-500-093-11	HEAD, MAGNETIC (PLAYBACK) (DECK-A)	
HRPE101	1-500-094-11	HEAD, MAGNETIC (REC/PB/ERASE) (DECK-B)	

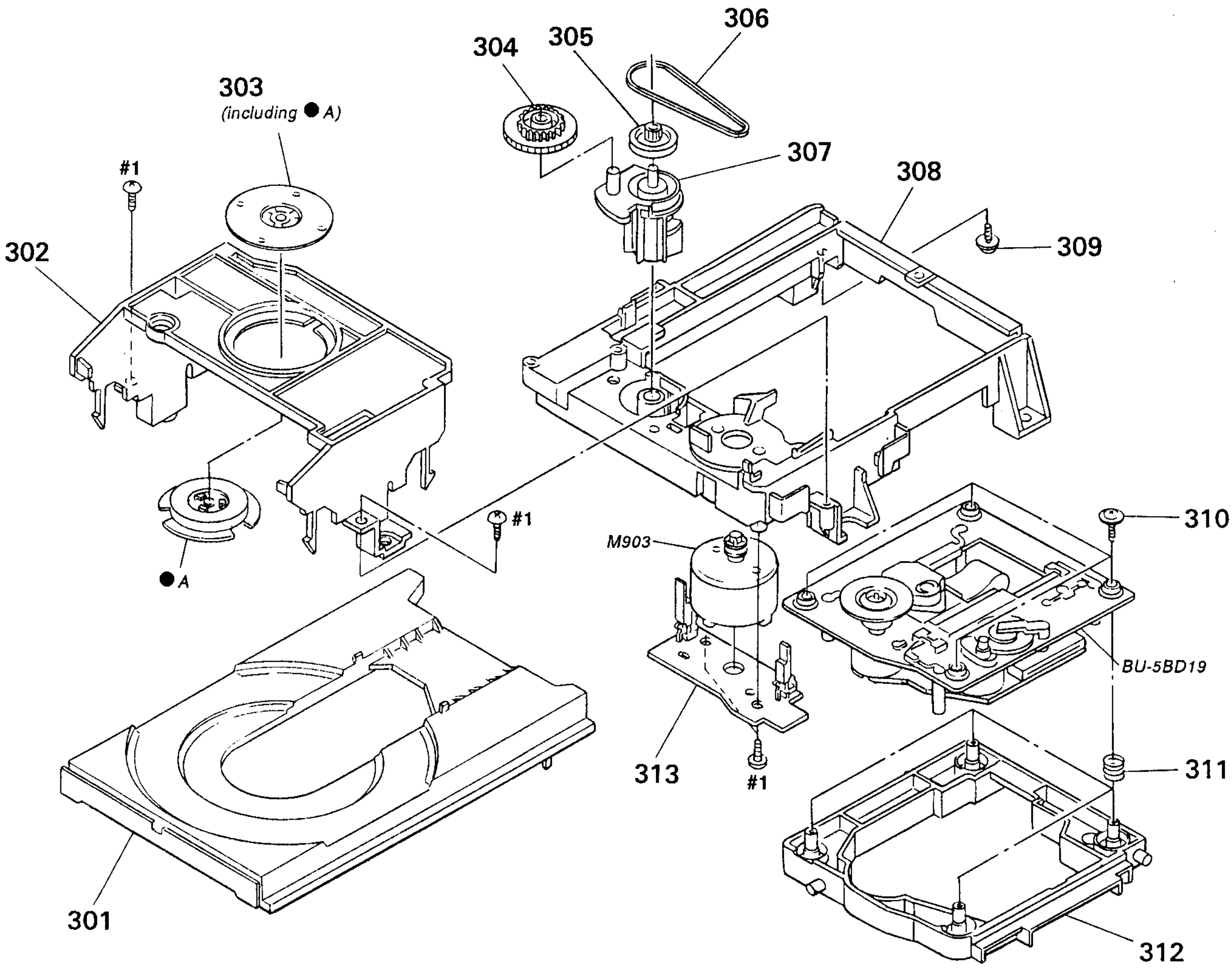
7-6. TC MECHANISM SECTION-3 (TCM-220WR2)

■ : *MOTOR BOARD*


M2
■
268
271
#6
#9
271
#9
267
270
260
273
261
252
266
260
272
259
#11
274
263
265
257
256
258
269
255
262
257
275
264
263
#8
254
253
M1
251
#7
252
not supplied
#7

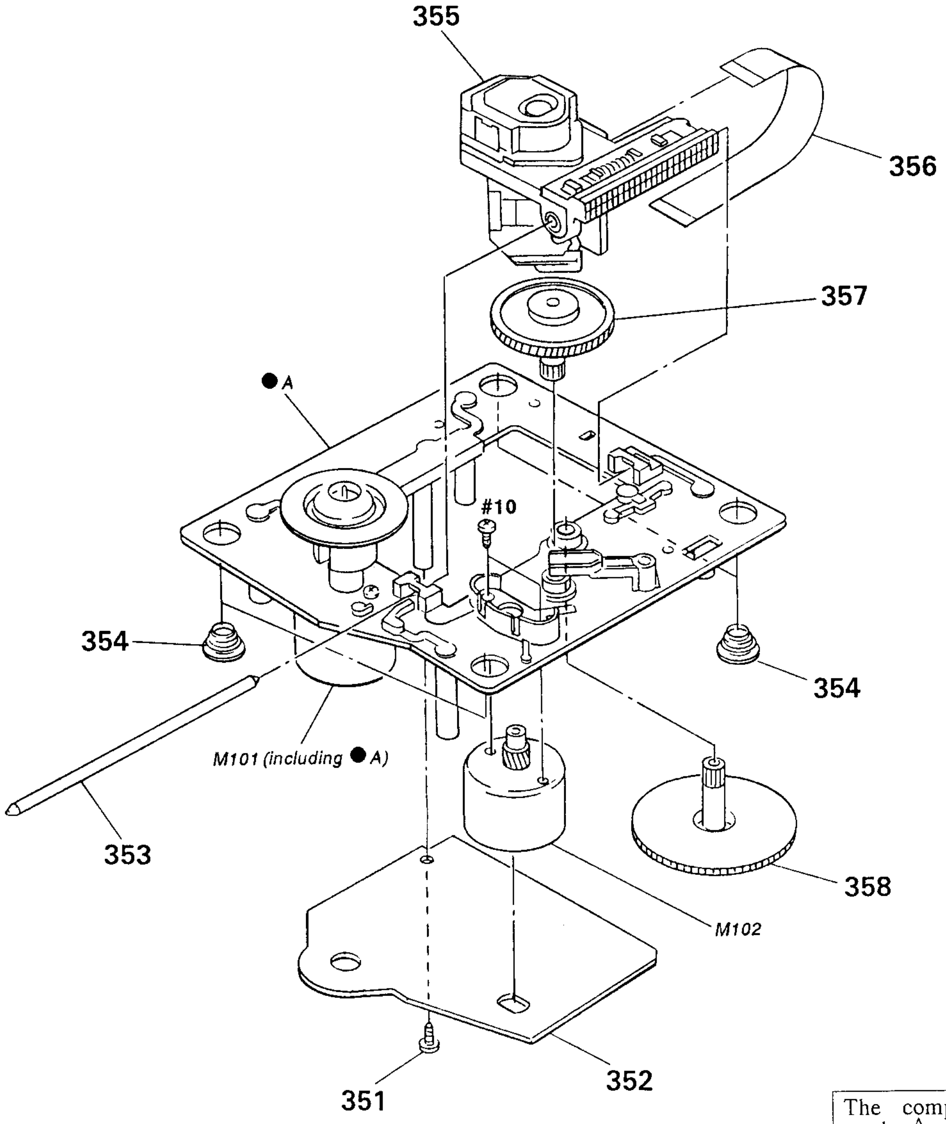
Ref. No.	Part No.	Description	Remark
251	3-908-597-01	CAM (A)	
252	3-908-608-01	SCREW, STEP	
253	X-3367-590-2	ARM (A) ASSY, FR	
254	X-3370-169-1	FLYWHEEL (AR) ASSY	
255	3-908-610-01	PULLEY, TENSION	
256	3-908-599-01	LEVER (REV-A)	
257	3-908-601-01	SPRING (REV LEVER), TORSION	
258	3-908-603-01	LEVER (TRIGGER A)	
259	X-3370-170-1	FLYWHEEL (BF) ASSY	
260	3-908-605-01	SPRING (TRIGGER), TORSION	
261	3-908-609-01	GEAR, TRIGGER	
262	3-913-845-01	BELT (A)	
263	3-913-846-01	BELT (FR)	
264	X-3370-171-1	FLYWHEEL (BR) ASSY	
265	3-908-600-01	LEVER (REV-B)	
* 266	1-650-669-11	LEAF SWITCH BOARD	
267	3-908-598-01	CAM (B)	
268	X-3367-591-2	ARM (B) ASSY, FR	
269	3-911-114-01	SPRING (FR), TORSION	
270	3-908-604-01	LEVER (TRIGGER B)	
271	3-911-115-01	WASHER, STOPPER	
272	X-3367-587-1	CHASSIS ASSY, MECHANICAL	
* 273	3-381-776-01	HOLDER (LED)	
274	3-917-176-01	BELT (B)	
275	X-3370-172-1	FLYWHEEL (AF) ASSY	
M1	X-3369-110-1	MOTOR ASSY (CAPSTAN)	
M2	X-3369-111-1	MOTOR ASSY (TRIGGER)	

7-7. CD MECHANISM SECTION-1 (CDM28-5BD19)


306
304
305
303
(including ● A)
307
#1
308
309
302
310
#1
M903
● A
BU-5BD19
313
#1
311
301
312

Ref. No.	Part No.	Description	Remark
301	4-960-836-01	TABLE, DISC	
302	4-960-835-01	HOLDER (M)	
303	1-452-719-11	MAGNET ASSY (including ●A)	
304	4-960-842-01	GEAR (P)	
305	4-960-841-01	PULLEY (S)	
306	4-927-649-01	BELT	
* 307	4-960-839-01	CAM	
308	4-960-838-03	BASE (MD)	
309	4-917-583-21	BRACKET, YOKE	
310	4-933-134-01	SCREW (+PTPWH M2.6X6)	
311	4-959-996-01	SPRING (932), COMPRESSION	
312	4-960-834-01	HOLDER (BU)	
* 313	1-650-836-11	LOADING BOARD	
M903	A-4604-363-A	MOTOR (L) ASSY(LOADING)	

7-8. CD MECHANISM SECTION-2
(BU-5BD19)


355
356
357
●A
#10
354
354
353
M101 (including ●A)
M102
358
351
352

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
351	4-951-620-01	SCREW (2.6×8), +BVTP	
* 352	A-4673-402-A	BD BOARD, COMPLETE	
353	4-917-565-01	SHAFT, SLED	
354	4-951-940-01	INSULATOR (BU)	
⚠355	8-848-387-01	DEVICE, OPTICAL KSS-213BA/S-N	
356	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)	
357	4-917-567-21	GEAR (M)	
358	4-917-564-01	GEAR (P), FLATNESS	
M101	X-4917-523-4	MOTOR ASSY (SPINDLE) (including ●A)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	

AUDIO **MOTOR**

SECTION 8
ELECTRICAL PARTS LIST

NOTE :

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL : Metal-film resistor
  METAL OXIDE : Metal oxide-film resistor
  F : nonflammable
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : μ , for example :
  uA.... : μ A.... , uPA.... : μ PA....
  uPB.... : μ PB.... , uPC.... : μ PC....
  uPD.... : μ PD....
- CAPACITORS
  uF : μ F
- COILS
  uH : μ H

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board.

- Abbreviations
  G : German
  IT : Italian
  EE : East European
  AUS : Australian
  EA : Saudi Arabia
  AR : Argentine
  HK : Hong Kong
  MX : Mexican
  MY : Malaysia
  SP : Singapore

Ref. No.	Part No.	Description			Remark
*	A-2007-253-A	AUDIO BOARD, COMPLETE ********************* MOTOR BOARD ***********			
		< CAPACITOR >			
C301	1-162-289-31	CERAMIC	390PF	10%	50V
C302	1-124-443-00	ELECT	100uF	20%	10V
C303	1-162-282-31	CERAMIC	100PF	10%	50V
C304	1-130-483-00	MYLAR	0.01uF	5%	50V
C305	1-124-282-00	ELECT	22uF	20%	16V
C311	1-162-289-31	CERAMIC	390PF	10%	50V
C313	1-162-282-31	CERAMIC	100PF	10%	50V
C314	1-130-487-00	MYLAR	0.022uF	5%	50V
C315	1-124-234-00	ELECT	22uF	20%	16V
C331	1-136-434-11	FILM	120PF	5%	630V
C332	1-162-288-31	CERAMIC	330PF	10%	50V
C333	1-162-209-31	CERAMIC	27PF	5%	50V
C401	1-162-289-31	CERAMIC	390PF	10%	50V
C402	1-124-443-00	ELECT	100uF	20%	10V
C403	1-162-282-31	CERAMIC	100PF	10%	50V
C404	1-130-483-00	MYLAR	0.01uF	5%	50V
C405	1-124-282-00	ELECT	22uF	20%	16V
C411	1-162-289-31	CERAMIC	390PF	10%	50V
C413	1-162-282-31	CERAMIC	100PF	10%	50V
C414	1-130-487-00	MYLAR	0.022uF	5%	50V
C415	1-124-234-00	ELECT	22uF	20%	16V
C431	1-136-434-11	FILM	120PF	5%	630V
C432	1-162-288-31	CERAMIC	330PF	10%	50V
C433	1-162-209-31	CERAMIC	27PF	5%	50V
C601	1-126-157-11	ELECT	10uF	20%	16V
C602	1-126-157-11	ELECT	10uF	20%	16V
C611	1-126-157-11	ELECT	10uF	20%	16V
C612	1-126-157-11	ELECT	10uF	20%	16V
C621	1-136-601-11	FILM	0.01uF	5%	630V
C622	1-124-925-11	ELECT	2.2uF	20%	100V
C623	1-136-155-00	FILM	0.015uF	5%	50V
C624	1-130-481-00	MYLAR	0.0068uF	5%	50V
C625	1-130-481-00	MYLAR	0.0068uF	5%	50V
C627	1-124-903-11	ELECT	1uF	20%	50V
C628	1-136-153-00	FILM	0.01uF	5%	50V
C642	1-124-477-11	ELECT	47uF	20%	25V
C651	1-164-159-11	CERAMIC	0.1uF		50V
		< CONNECTOR >			
* CN601	1-568-864-11	SOCKET, CONNECTOR 21P			
* CN602	1-564-718-11	PIN, CONNECTOR (SMALL TYPE) 2P			
* CN651	1-564-521-11	PLUG, CONNECTOR 6P			
		< IC >			
IC601	8-759-111-44	IC	uPC4570C-1		
IC602	8-759-143-54	IC	uPC1330HA		
IC611	8-759-111-44	IC	uPC4570C-1		
		< COIL >			
L331	1-410-780-11	INDUCTOR	27mH		
L431	1-410-780-11	INDUCTOR	27mH		
		< TRANSISTOR >			
Q621	8-729-142-46	TRANSISTOR	2SC2001-LK		
Q622	8-729-142-46	TRANSISTOR	2SC2001-LK		
Q623	8-729-801-93	TRANSISTOR	2SD1387		
Q651	8-729-900-65	TRANSISTOR	DTA144ES		
		< RESISTOR >			
R301	1-247-881-00	CARBON	120K	5%	1/4W
R302	1-249-409-11	CARBON	220	5%	1/4W
R303	1-249-433-11	CARBON	22K	5%	1/4W
R304	1-247-889-00	CARBON	270K	5%	1/4W
R305	1-247-858-11	CARBON	13K	5%	1/4W

Ref.No.	Part No.	Description	Remark
R311	1-247-881-00	CARBON 120K 5% 1/4W	
R312	1-247-807-31	CARBON 100 5% 1/4W	
R314	1-247-882-11	CARBON 130K 5% 1/4W	
R315	1-247-850-11	CARBON 6.2K 5% 1/4W	
R331	1-249-430-11	CARBON 12K 5% 1/4W	
R401	1-247-881-00	CARBON 120K 5% 1/4W	
R402	1-249-409-11	CARBON 220 5% 1/4W	
R403	1-249-433-11	CARBON 22K 5% 1/4W	
R404	1-247-889-00	CARBON 270K 5% 1/4W	
R405	1-247-858-11	CARBON 13K 5% 1/4W	
R411	1-247-881-00	CARBON 120K 5% 1/4W	
R412	1-247-807-31	CARBON 100 5% 1/4W	
R414	1-247-882-11	CARBON 130K 5% 1/4W	
R415	1-247-850-11	CARBON 6.2K 5% 1/4W	
R431	1-249-430-11	CARBON 12K 5% 1/4W	
R601	1-249-409-11	CARBON 220 5% 1/4W	
R602	1-249-409-11	CARBON 220 5% 1/4W	
R608	1-249-409-11	CARBON 220 5% 1/4W	
R609	1-249-433-11	CARBON 22K 5% 1/4W	
R611	1-249-409-11	CARBON 220 5% 1/4W	
R612	1-249-409-11	CARBON 220 5% 1/4W	
⚠R621	1-212-851-00	FUSIBLE 5.6 5% 1/4W	F
⚠R622	1-212-851-00	FUSIBLE 5.6 5% 1/4W	F
R623	1-249-432-11	CARBON 18K 5% 1/4W	
R624	1-249-432-11	CARBON 18K 5% 1/4W	
R625	1-249-429-11	CARBON 10K 5% 1/4W	
R651	1-247-856-00	CARBON 11K 5% 1/4W	
R652	1-247-856-00	CARBON 11K 5% 1/4W	
R653	1-249-441-11	CARBON 100K 5% 1/4W	

< VARIABLE RESISTOR >

Ref.No.	Part No.	Description	Remark
RV301	1-238-598-11	RES, ADJ, CARBON 2.2K (PB LEVEL L)	
RV311	1-238-598-11	RES, ADJ, CARBON 2.2K (PB LEVEL L)	
RV341	1-238-551-11	RES, ADJ, CARBON 220K (REC BIAS L)	
RV401	1-238-598-11	RES, ADJ, CARBON 2.2K (PB LEVEL R)	
RV411	1-238-598-11	RES, ADJ, CARBON 2.2K (PB LEVEL R))	
RV441	1-238-551-11	RES, ADJ, CARBON 220K (REC BIAS R)	
RV651	1-238-599-11	RES, ADJ, CARBON 4.7K (TAPE SPEED NORMAL)	
RV652	1-238-599-11	RES, ADJ, CARBON 4.7K (TAPE SPEED HIGH)	

< TRANSFORMER >

Ref.No.	Part No.	Description	Remark
T621	1-423-980-11	TRANSFORMER, BIAS OSCILLATION	

****

Ref.No.	Part No.	Description	Remark
*	A-4673-402-A	BD BOARD, COMPLETE ******************	

< CAPACITOR >

Ref.No.	Part No.	Description	Remark
C101	1-126-607-11	ELECT CHIP 47uF 20% 4V	
C102	1-163-275-11	CERAMIC CHIP 0.001uF 5% 50V	
C103	1-164-346-11	CERAMIC CHIP 1uF 16V	
C105	1-163-038-91	CERAMIC CHIP 0.1uF 25V	
C106	1-164-695-11	CERAMIC CHIP 0.0022uF 5% 50V	
C107	1-164-695-11	CERAMIC CHIP 0.0022uF 5% 50V	
C108	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C109	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C110	1-163-989-11	CERAMIC CHIP 0.033uF 10% 25V	
C111	1-163-038-91	CERAMIC CHIP 0.1uF 25V	
C112	1-163-038-91	CERAMIC CHIP 0.1uF 25V	
C113	1-164-695-11	CERAMIC CHIP 0.0022uF 5% 50V	
C114	1-164-005-11	CERAMIC CHIP 0.47uF 25V	
C115	1-126-607-11	ELECT CHIP 47uF 20% 4V	
C116	1-163-143-00	CERAMIC CHIP 0.0012uF 5% 50V	
C117	1-164-005-11	CERAMIC CHIP 0.47uF 25V	
C118	1-163-038-91	CERAMIC CHIP 0.1uF 25V	
C119	1-163-038-91	CERAMIC CHIP 0.1uF 25V	
C120	1-135-201-11	TANTALUM CHIP 10uF 20% 4V	
C121	1-163-038-91	CERAMIC CHIP 0.1uF 25V	
C122	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C123	1-163-038-91	CERAMIC CHIP 0.1uF 25V	
C124	1-126-607-11	ELECT CHIP 47uF 20% 4V	
C125	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C126	1-163-038-91	CERAMIC CHIP 0.1uF 25V	
C127	1-164-695-11	CERAMIC CHIP 0.0022uF 5% 50V	
C128	1-163-135-00	CERAMIC CHIP 560PF 5% 50V	
C129	1-163-038-91	CERAMIC CHIP 0.1uF 25V	
C130	1-164-336-11	CERAMIC CHIP 0.33uF 25V	
C131	1-163-038-91	CERAMIC CHIP 0.1uF 25V	
C132	1-163-037-11	CERAMIC CHIP 0.022uF 10% 25V	
C133	1-163-145-00	CERAMIC CHIP 0.0015uF 5% 50V	
C134	1-164-346-11	CERAMIC CHIP 1uF 16V	
C135	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C136	1-164-005-11	CERAMIC CHIP 0.47uF 25V	
C137	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C139	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	
C140	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	
C141	1-163-038-91	CERAMIC CHIP 0.1uF 25V	
C142	1-163-038-91	CERAMIC CHIP 0.1uF 25V	
C145	1-135-201-11	TANTALUM CHIP 10uF 20% 4V	
C146	1-135-201-11	TANTALUM CHIP 10uF 20% 4V	
C147	1-163-275-11	CERAMIC CHIP 0.001uF 5% 50V	
C148	1-163-275-11	CERAMIC CHIP 0.001uF 5% 50V	
C149	1-164-346-11	CERAMIC CHIP 1uF 16V	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

BD CD-LED

Ref. No.	Part No.	Description	Remark
C153	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	
C154	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
CNU101	1-770-014-11	CONNECTOR, FFC/FPC 16P	
CNU102	1-770-013-11	CONNECTOR, FFC/FPC 19P	

< IC >

Ref. No.	Part No.	Description	Remark
IC101	8-752-069-56	IC CXA1782BQ	
IC102	8-759-291-06	IC BA6397FP-T1	
IC103	8-752-372-94	IC CXD2507AQ	
IC104	8-759-185-29	IC PCM1710U-BT1	

< TRANSISTOR >

Ref. No.	Part No.	Description	Remark
Q101	8-729-010-08	TRANSISTOR MSB710-R	
Q102	8-729-424-08	TRANSISTOR UN2111	
Q103	8-729-421-22	TRANSISTOR UN2211	

< RESISTOR >

Ref. No.	Part No.	Description	Remark
R102	1-216-001-00	METAL CHIP 10 5% 1/10W	
R103	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R104	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R105-108	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R109	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R112	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R113	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R114	1-216-101-00	METAL CHIP 150K 5% 1/10W	
R115	1-216-101-00	METAL CHIP 150K 5% 1/10W	
R116	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R117	1-216-093-00	METAL CHIP 68K 5% 1/10W	
R118	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R119	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R120	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R121	1-216-114-00	METAL GLAZE 510K 5% 1/10W	
R122	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R123	1-216-099-00	METAL CHIP 120K 5% 1/10W	
R124	1-216-091-00	METAL CHIP 56K 5% 1/10W	
R125	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
R126	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R127	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R128	1-216-105-91	METAL GLAZE 220K 5% 1/10W	
R129	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R130	1-216-079-00	METAL CHIP 18K 5% 1/10W	
R131	1-216-079-00	METAL CHIP 18K 5% 1/10W	
R132	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R133	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R134	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R135	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R136	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R137	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R138	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R139	1-216-033-00	METAL CHIP 220 5% 1/10W	
R140	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R141	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R142	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R143	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R144	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R145	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R146	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R147-149	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R150-152	1-216-037-00	METAL CHIP 330 5% 1/10W	
R153	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R154	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R156	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R157	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
R158	1-216-001-00	METAL CHIP 10 5% 1/10W	

< VARIABLE RESISTOR >

Ref. No.	Part No.	Description	Remark
RV101	1-241-396-11	RES, ADJ, METAL GLAZE 22K (FOCUS BIAS)	
RV102	1-241-396-11	RES, ADJ, METAL GLAZE 22K (FOCUS GAIN)	
RV103	1-241-396-11	RES, ADJ, METAL GLAZE 22K (TRACKING GAIN)	

< SWITCH >

Ref. No.	Part No.	Description	Remark
S101	1-572-085-11	SWITCH, LEAF (LIMIT SW)	

< VIBRATOR >

Ref. No.	Part No.	Description	Remark
X101	1-579-280-11	VIBRATOR, CRYSTAL (16.9344MHz)	

****

Ref. No.	Part No.	Description	Remark
*	1-655-368-11	CD-LED BOARD ************	

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
* CN508	1-564-518-11	PLUG, CONNECTOR 3P	

< DIODE >

Ref. No.	Part No.	Description	Remark
D535	8-719-032-87	LED SEL5420E-TP	
D536	8-719-032-87	LED SEL5420E-TP	
D537	8-719-033-06	LED SEL5920A	

****

Ref. No.	Part No.	Description	Remark
*	A-4377-340-A	HP/MIC BOARD, COMPLETE (AE1, EE)	
*	A-4377-352-A	HP/MIC BOARD, COMPLETE (AE2, G, IT, UK)	
*	A-4377-355-A	HP/MIC BOARD, COMPLETE	(E, EA, SP, MY, HK, MX, AR, AUS)

****

Ref. No.	Part No.	Description	Remark
*	4-942-204-01	PLATE, GROUND	

< CAPACITOR >

Ref. No.	Part No.	Description	Remark
C701	1-124-925-11	ELECT 2.2uF 20% 100V	(E, EA, SP, MY, HK, MX, AR, AUS)
C702	1-126-933-11	ELECT 100uF 20% 10V	(E, EA, SP, MY, HK, MX, AR, AUS)
C703	1-162-306-11	CERAMIC 0.01uF 30% 16V	(E, EA, SP, MY, HK, MX, AR, AUS)
C704	1-161-494-00	CERAMIC 0.022uF 25V	(E, EA, SP, MY, HK, MX, AR, AUS)
C705	1-124-903-11	ELECT 1uF 20% 50V	(E, EA, SP, MY, HK, MX, AR, AUS)
C706	1-130-479-00	MYLAR 0.0047uF 5% 50V	(E, EA, SP, MY, HK, MX, AR, AUS)
C707	1-130-473-00	MYLAR 0.0015uF 5% 50V	(E, EA, SP, MY, HK, MX, AR, AUS)
C708	1-136-495-11	FILM 0.068uF 5% 50V	(E, EA, SP, MY, HK, MX, AR, AUS)
C709	1-136-165-00	FILM 0.1uF 5% 50V	(E, EA, SP, MY, HK, MX, AR, AUS)
C710	1-136-165-00	FILM 0.1uF 5% 50V	(E, EA, SP, MY, HK, MX, AR, AUS)
C711	1-124-126-00	ELECT 47uF 20% 16V	(E, EA, SP, MY, HK, MX, AR, AUS)
C712	1-136-495-11	FILM 0.068uF 5% 50V	(E, EA, SP, MY, HK, MX, AR, AUS)
C713	1-162-305-11	CERAMIC 0.0068uF 30% 16V	(E, EA, SP, MY, HK, MX, AR, AUS)
C714	1-130-479-00	MYLAR 0.0047uF 5% 50V	(E, EA, SP, MY, HK, MX, AR, AUS)
C715	1-124-903-11	ELECT 1uF 20% 50V	(E, EA, SP, MY, HK, MX, AR, AUS)
C716	1-130-473-00	MYLAR 0.0015uF 5% 50V	(E, EA, SP, MY, HK, MX, AR, AUS)
C717	1-124-903-11	ELECT 1uF 20% 50V	(E, EA, SP, MY, HK, MX, AR, AUS)
C718	1-164-159-11	CERAMIC 0.1uF 50V	
C737	1-124-925-11	ELECT 2.2uF 20% 100V	
C738	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C739	1-162-215-31	CERAMIC 47PF 5% 50V	
C740	1-162-290-31	CERAMIC 470PF 10% 50V	
C741	1-124-902-00	ELECT 0.47uF 20% 50V	
C742	1-162-306-11	CERAMIC 0.01uF 30% 16V	(E, EA, SP, MY, HK, MX, AR, AUS)
C743	1-162-282-31	CERAMIC 100PF 10% 50V	(E, EA, SP, MY, HK, MX, AR, AUS)
C745	1-124-925-11	ELECT 2.2uF 20% 100V	
C746	1-124-126-00	ELECT 47uF 20% 16V	
C747	1-124-126-00	ELECT 47uF 20% 16V	
C748	1-162-215-31	CERAMIC 47PF 5% 50V	(E, EA, SP, MY, HK, MX, AR, AUS)
C755	1-162-282-31	CERAMIC 100PF 10% 50V	(AEP, UK, G, IT, EE)
C755	1-162-290-31	CERAMIC 470PF 10% 50V	(E, EA, SP, MY, HK, MX, AR, AUS)
C758	1-124-902-00	ELECT 0.47uF 20% 50V	(E, EA, SP, MY, HK, MX, AR, AUS)
C759	1-162-215-31	CERAMIC 47PF 5% 50V	
C781	1-162-290-31	CERAMIC 470PF 10% 50V	(E, EA, SP, MY, HK, MX, AR, AUS)
C782	1-162-290-31	CERAMIC 470PF 10% 50V	(E, EA, SP, MY, HK, MX, AR, AUS)
C790	1-164-159-11	CERAMIC 0.1uF 50V	
C792	1-162-306-11	CERAMIC 0.01uF 30% 16V	(AEP, UK, G, IT, EE)

< IC >

Ref. No.	Part No.	Description	Remark
IC701	8-759-265-83	IC M65843FP	(E, EA, SP, MY, HK, MX, AR, AUS)
IC705	8-759-634-51	IC M5218AP	(E, EA, SP, MY, HK, MX, AR, AUS)
IC706	8-759-634-51	IC M5218AP	

< JACK >

Ref. No.	Part No.	Description	Remark
J701	1-507-854-00	JACK, PHONE (MIX MIC)	(E, EA, SP, MY, HK, MX, AR, AUS)
J702	1-507-854-00	JACK, PHONE (MIX MIC)	(AEP, UK, G, IT, EE)
J703	1-507-854-00	JACK, PHONE (PHONES)	

< COIL >

Ref. No.	Part No.	Description	Remark
L701	1-410-521-11	INDUCTOR 100uH	(E, EA, SP, MY, HK, MX, AR, AUS)

< RESISTOR >

Ref. No.	Part No.	Description	Remark
R701	1-247-903-00	CARBON 1M 5% 1/4W	(E, EA, SP, MY, HK, MX, AR, AUS)
R702	1-249-431-11	CARBON 15K 5% 1/4W	(E, EA, SP, MY, HK, MX, AR, AUS)
R703	1-249-431-11	CARBON 15K 5% 1/4W	(E, EA, SP, MY, HK, MX, AR, AUS)
R704	1-249-431-11	CARBON 15K 5% 1/4W	(E, EA, SP, MY, HK, MX, AR, AUS)
R705	1-249-429-11	CARBON 10K 5% 1/4W	(E, EA, SP, MY, HK, MX, AR, AUS)
R706	1-249-433-11	CARBON 22K 5% 1/4W	(E, EA, SP, MY, HK, MX, AR, AUS)
R707	1-249-431-11	CARBON 15K 5% 1/4W	(E, EA, SP, MY, HK, MX, AR, AUS)

HP/MIC | KARAOKE SW | LEAF SW | LOADING

Ref. No.	Part No.	Description	Remark
R708	1-249-429-11	CARBON 10K 5% 1/4W	(E, EA, SP, MY, HK, MX, AR, AUS)
R709	1-249-431-11	CARBON 15K 5% 1/4W	(E, EA, SP, MY, HK, MX, AR, AUS)
R710	1-249-423-11	CARBON 3.3K 5% 1/4W	(E, EA, SP, MY, HK, MX, AR, AUS)
R711	1-249-399-11	CARBON 33 5% 1/4W	(E, EA, SP, MY, HK, MX, AR, AUS)
R738	1-249-429-11	CARBON 10K 5% 1/4W	(E, EA, SP, MY, HK, MX, AR, AUS)
R739	1-249-417-11	CARBON 1K 5% 1/4W	
R740	1-249-441-11	CARBON 100K 5% 1/4W	
R741	1-249-417-11	CARBON 1K 5% 1/4W	
R742	1-249-433-11	CARBON 22K 5% 1/4W	
R743	1-249-429-11	CARBON 10K 5% 1/4W	(E, EA, SP, MY, HK, MX, AR, AUS)
R744	1-249-431-11	CARBON 15K 5% 1/4W	(E, EA, SP, MY, HK, MX, AR, AUS)
R745	1-249-437-11	CARBON 47K 5% 1/4W	(E, EA, SP, MY, HK, MX, AR, AUS)
R746	1-247-807-31	CARBON 100 5% 1/4W	(AEP, UK, G, IT, EE)
R746	1-249-417-11	CARBON 1K 5% 1/4W	(E, EA, SP, MY, HK, MX, AR, AUS)
R750	1-249-429-11	CARBON 10K 5% 1/4W	(AEP, UK, G, IT, EE)
R756	1-247-883-00	CARBON 150K 5% 1/4W	(AEP, UK, G, IT, EE)
R756	1-249-435-11	CARBON 33K 5% 1/4W	(E, EA, SP, MY, HK, MX, AR, AUS)
R757	1-249-429-11	CARBON 10K 5% 1/4W	
R781	1-249-423-11	CARBON 3.3K 5% 1/4W	(E, EA, SP, MY, HK, MX, AR, AUS)
		< VARIABLE RESISTOR >	
RV701	1-223-815-11	RES, VAR, CARBON 50K (MIC LEVEL)	(E, EA, SP, MY, HK, MX, AR, AUS)
RV702	1-223-815-11	RES, VAR, CARBON 50K (ECHO LEVEL)	(E, EA, SP, MY, HK, MX, AR, AUS)
		< VIBRATOR >	
X701	1-527-978-00	OSCILLATOR, CERAMIC (320kHz)	(E, EA, SP, MY, HK, MX, AR, AUS)
**			
*	1-655-370-11	KARAOKE SWITCH BOARD ********************	
		< DIODE >	
D514	8-719-046-44	LED SEL5221S-TP15 (KARAOKE PON)	
		< RESISTOR >	
R535	1-249-423-11	CARBON 3.3K 5% 1/4W	
R536	1-249-427-11	CARBON 6.8K 5% 1/4W	
		< SWITCH >	
S528	1-554-303-21	SWITCH, TACTILE (KARAOKE PON)	
**			
*	1-650-669-11	LEAF SWITCH BOARD *****************	
*	3-381-776-01	HOLDER (LED)	
		< CONNECTOR >	
* CN1001	1-568-854-11	SOCKET, CONNECTOR 11P	
		< TRANSISTOR >	
Q1001	8-719-710-02	TRANSISTOR PHOTO REFLECTOR NJL5165K-A	
Q1002	8-719-710-02	TRANSISTOR PHOTO REFLECTOR NJL5165K-A	
		< RESISTOR >	
R1001	1-249-412-11	CARBON 390 5% 1/4W	
R1002	1-249-412-11	CARBON 390 5% 1/4W	
R1003	1-249-414-11	CARBON 560 5% 1/4W	
R1004	1-247-834-11	CARBON 1.3K 5% 1/4W	
R1005	1-247-818-11	CARBON 300 5% 1/4W	
		< SWITCH >	
S1001	1-692-832-11	SWITCH, PUSH (1 KEY) (A PLAY)	
S1002	1-692-832-11	SWITCH, PUSH (1 KEY) (B PLAY)	
S1003	1-571-281-21	SWITCH, LEAF (A HALF)	
S1004	1-571-281-21	SWITCH, LEAF (A CrO_2)	
S1005	1-572-248-11	SWITCH, LEAF (REC A)	
S1006	1-572-248-11	SWITCH, LEAF(B HALF)	
S1008	1-571-281-21	SWITCH, LEAF(B CrO_2)	
S1009	1-571-281-21	SWITCH, LEAF(REC B)	
**			
*	1-650-836-11	LOADING BOARD *************	
		< CONNECTOR >	
* CN291	1-568-943-11	PIN, CONNECTOR 5P	
		< SWITCH >	
S291	1-572-086-11	SWITCH, LEAF (LOAD OUT)	
S292	1-572-086-11	SWITCH, LEAF (LOAD IN)	
**			

Ref. No.	Part No.	Description	Remark
*	A-4377-344-A	MAIN BOARD, COMPLETE (AE1)	
*	A-4377-346-A	MAIN BOARD, COMPLETE (EE)	
*	A-4377-348-A	MAIN BOARD, COMPLETE (G)	
*	A-4377-349-A	MAIN BOARD, COMPLETE (IT)	
*	A-4377-353-A	MAIN BOARD, COMPLETE (AE2)	
*	A-4377-357-A	MAIN BOARD, COMPLETE (E2, MX, AR)	
*	A-4377-358-A	MAIN BOARD, COMPLETE (E3, SP, MY, HK)	
*	A-4377-359-A	MAIN BOARD, COMPLETE (EA)	
*	A-4377-360-A	MAIN BOARD, COMPLETE (AUS)	
*	A-4377-361-A	MAIN BOARD, COMPLETE (UK2)	
*	A-4377-952-A	MAIN BOARD, COMPLETE (UK1)	

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7-685-645-79 SCREW +BVTP 3X6 TYPE2 N-S

< CAPACITOR >

Ref. No.	Part No.	Description				Remark
C1	1-162-306-11	CERAMIC	0.01uF	30%	16V	
C2	1-162-205-31	CERAMIC	18PF	5%	50V	
C3	1-162-306-11	CERAMIC	0.01uF	30%	16V	
C4	1-162-306-11	CERAMIC	0.01uF	30%	16V	
C5	1-124-126-00	ELECT	47uF	20%	16V	
C6	1-162-306-11	CERAMIC	0.01uF	30%	16V	(AE2, UK, G, IT)
C10	1-162-306-11	CERAMIC	0.01uF	30%	16V	
C11	1-164-159-11	CERAMIC	0.1uF		50V	(E3, EA, SP, MY, HK)
C13	1-164-159-11	CERAMIC	0.1uF		50V	(AEP)
C14	1-164-159-11	CERAMIC	0.1uF		50V	(E3, EA, SP, MY, HK)
C15	1-136-162-00	FILM	0.056uF	5%	50V	(E3, EA, SP, MY, HK)
C16	1-126-933-11	ELECT	100uF	20%	16V	(E3, EA, SP, MY, HK)
C17	1-162-306-11	CERAMIC	0.01uF	30%	16V	(E3, EA, SP, MY, HK)
C18	1-162-195-31	CERAMIC	4.7PF	10%	50V	(E3, EA, SP, MY, HK)
C19	1-102-527-11	CERAMIC	82PF	5%	50V	(AEP, UK, EE)
C20	1-162-211-31	CERAMIC	33PF	5%	50V	(AEP, G, IT, UK)
C21	1-162-306-11	CERAMIC	0.01uF	30%	16V	
C22	1-162-306-11	CERAMIC	0.01uF	30%	16V	
C23	1-162-199-31	CERAMIC	10PF	5%	50V	
C24	1-162-199-31	CERAMIC	10PF	5%	50V	
C25	1-162-306-11	CERAMIC	0.01uF	30%	16V	
C26	1-124-126-00	ELECT	47uF	20%	16V	
C27	1-162-306-11	CERAMIC	0.01uF	30%	16V	
C28	1-124-126-00	ELECT	47uF	20%	16V	
C29	1-162-306-11	CERAMIC	0.01uF	30%	16V	
C30	1-124-257-00	ELECT	2.2uF	20%	50V	
C31	1-136-153-00	FILM	0.01uF	5%	50V	
C32	1-124-463-00	ELECT	0.1uF	20%	50V	
C33	1-164-159-11	CERAMIC	0.1uF		50V	
C34	1-162-198-31	CERAMIC	8.2PF	10%	50V	(AEP, UK, EE)
C34	1-162-196-31	CERAMIC	5.6PF	10%	50V	(G, IT, E, EA, SP, MY, HK, MX, AR, AUS)
C39	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C40	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C41-46	1-162-306-11	CERAMIC	0.01uF	30%	16V	
C47	1-124-126-00	ELECT	47uF	20%	16V	
C48	1-162-306-11	CERAMIC	0.01uF	30%	16V	
C49	1-124-902-00	ELECT	0.47uF	20%	50V	
C50	1-124-903-11	ELECT	1uF	20%	50V	
C51	1-124-903-11	ELECT	1uF	20%	50V	
C52-56	1-126-964-11	ELECT	10uF	20%	50V	
C57	1-162-600-11	CERAMIC	0.0047uF	30%	16V	
C58	1-162-600-11	CERAMIC	0.0047uF	30%	16V	
C59	1-136-159-00	FILM	0.033uF	5%	50V	
C60	1-136-159-00	FILM	0.033uF	5%	50V	
C61	1-124-903-11	ELECT	1uF	20%	50V	
C62	1-162-294-31	CERAMIC	0.001uF	10%	50V	
C63	1-162-303-11	CERAMIC	0.0033uF	30%	16V	
C64	1-124-126-00	ELECT	47uF	20%	16V	
C65	1-162-306-11	CERAMIC	0.01uF	30%	16V	
C66	1-126-111-11	ELECT	3.3uF	20%	50V	
C67	1-126-933-11	ELECT	100uF	20%	16V	
C68	1-162-306-11	CERAMIC	0.01uF	30%	16V	
C81	1-164-159-11	CERAMIC	0.1uF		50V	(AEP, UK, G, IT)
C82	1-126-964-11	ELECT	10uF	20%	50V	(AEP, UK, G, IT)
C83	1-162-291-31	CERAMIC	560PF	10%	50V	(AEP, UK, G, IT)
C84	1-102-527-11	CERAMIC	82PF	5%	50V	(AEP, UK, G, IT)
C85	1-164-035-11	CERAMIC	47PF	5%	50V	(AEP, UK, G, IT)
C86	1-162-306-11	CERAMIC	0.01uF	30%	16V	(AEP, UK, G, IT)
C87	1-126-933-11	ELECT	100uF	20%	16V	(AEP, UK, G, IT)
C88	1-124-257-00	ELECT	2.2uF	20%	50V	(AEP, UK, G, IT)
C89	1-162-288-31	CERAMIC	330PF	10%	50V	(AEP, UK, G, IT)
C90	1-162-306-11	CERAMIC	0.01uF	30%	16V	(AEP, UK, G, IT)
C91	1-162-291-31	CERAMIC	560PF	10%	50V	(AEP, UK, G, IT)

MAIN

Ref. No.	Part No.	Description			Remark
C92	1-162-306-11	CERAMIC	0.01uF	30%	16V (AEP, UK, G, IT)
C93	1-126-933-11	ELECT	100uF	20%	10V (AEP, UK, G, IT)
C94	1-126-964-11	ELECT	10uF	20%	50V (AEP, UK, G, IT)
C95	1-162-306-11	CERAMIC	0.01uF	20%	16V
C101	1-162-286-31	CERAMIC	220PF	10%	50V
C102	1-162-600-11	CERAMIC	0.0047uF	10%	16V
C112	1-162-306-11	CERAMIC	0.01uF	30%	16V
C113	1-162-306-11	CERAMIC	0.01uF	30%	16V
C124	1-126-964-11	ELECT	10uF	20%	50V
C125	1-136-161-00	FILM	0.047uF	5%	50V
C126	1-136-161-00	FILM	0.047uF	5%	50V
C127	1-136-169-00	FILM	0.22uF	5%	50V
C128	1-162-305-11	CERAMIC	0.0068uF	30%	16V
C129	1-136-159-00	FILM	0.033uF	5%	50V
C130	1-162-306-11	CERAMIC	0.01uF	20%	16V
C131	1-136-169-00	FILM	0.22uF	5%	50V
C132	1-136-169-00	FILM	0.22uF	5%	50V
C133	1-126-964-11	ELECT	10uF	20%	50V
C134	1-126-964-11	ELECT	10uF	20%	50V
C135	1-136-169-00	FILM	0.22uF	5%	50V
C136	1-136-169-00	FILM	0.22uF	5%	50V
C137	1-162-306-11	CERAMIC	0.01uF	20%	16V
C138	1-136-159-00	FILM	0.033uF	5%	50V
C139	1-162-305-11	CERAMIC	0.0068uF	30%	16V
C140	1-136-169-00	FILM	0.22uF	5%	50V
C141	1-136-161-00	FILM	0.047uF	5%	50V
C142	1-161-494-00	CERAMIC	0.022uF		25V
C143	1-126-964-11	ELECT	10uF	20%	50V
C144	1-162-306-11	CERAMIC	0.01uF	30%	16V
C145	1-124-257-00	ELECT	2.2uF	20%	50V
C146	1-126-964-11	ELECT	10uF	20%	50V
C147	1-162-306-11	CERAMIC	0.01uF	30%	16V
C149	1-124-257-00	ELECT	2.2uF	20%	50V
C150	1-164-159-11	CERAMIC	0.1uF		50V
C151	1-162-286-31	CERAMIC	220PF	10%	50V
C152-154	1-162-600-11	CERAMIC	0.0047uF	10%	16V
C160	1-164-159-11	CERAMIC	0.1uF		50V
C161-164	1-136-165-00	FILM	0.1uF	5%	50V
C165	1-162-306-11	CERAMIC	0.01uF	20%	16V
C166	1-162-306-11	CERAMIC	0.01uF	20%	16V
C171	1-109-889-11	ELECT	1uF	20%	50V
C172	1-109-889-11	ELECT	1uF	20%	50V
C173	1-126-964-11	ELECT	10uF	20%	50V
C174	1-126-964-11	ELECT	10uF	20%	50V
C181	1-126-964-11	ELECT	10uF	20%	50V
C182	1-126-964-11	ELECT	10uF	20%	50V
C183	1-162-294-31	CERAMIC	0.001uF	10%	50V
C184	1-162-294-31	CERAMIC	0.001uF	10%	50V
C194	1-162-306-11	CERAMIC	0.01uF	30%	16V
C195	1-162-306-11	CERAMIC	0.01uF	30%	16V
C196	1-126-964-11	ELECT	10uF	20%	50V
C197	1-162-306-11	CERAMIC	0.01uF	30%	16V
C199	1-124-257-00	ELECT	2.2uF	20%	50V
C300	1-162-294-31	CERAMIC	0.001uF	10%	50V
C303	1-136-165-00	FILM	0.1uF	5%	50V
C304	1-162-206-31	CERAMIC	20PF	5%	50V
C305	1-162-206-31	CERAMIC	20PF	5%	50V
C306	1-164-159-11	CERAMIC	0.1uF		50V
C307	1-162-286-31	CERAMIC	220PF	10%	50V
C312	1-162-306-11	CERAMIC	0.01uF	30%	16V
C314	1-126-926-11	ELECT	1000uF	20%	10V
C320	1-126-927-11	ELECT	2200uF	20%	10V
C380	1-126-964-11	ELECT	10uF	20%	50V
C381	1-162-294-31	CERAMIC	0.001uF	10%	50V
C383	1-162-290-31	CERAMIC	470PF	10%	50V
C398	1-162-306-11	CERAMIC	0.01uF	30%	16V
C401	1-162-286-31	CERAMIC	220PF	10%	50V
C402	1-130-479-00	MYLAR	0.0047uF	5%	50V
C403	1-162-303-11	CERAMIC	0.0033uF	20%	16V
C404	1-164-159-11	CERAMIC	0.1uF		50V
C406	1-124-903-11	ELECT	1uF	20%	50V
C407	1-124-902-00	ELECT	0.47uF	20%	50V
C408	1-126-964-11	ELECT	10uF	20%	50V
C409	1-124-464-11	ELECT	0.22uF	20%	50V
C410	1-162-600-11	CERAMIC	0.0047uF	30%	16V
C411	1-124-903-11	ELECT	1uF	20%	50V
C422	1-126-933-11	ELECT	100uF	20%	10V
C423	1-126-933-11	ELECT	100uF	20%	10V
C424-426	1-164-159-11	CERAMIC	0.1uF		50V
C427	1-126-952-11	ELECT	1000uF	20%	16V
C428	1-126-933-11	ELECT	100uF	20%	16V
C430	1-126-964-11	ELECT	10uF	20%	50V
C431	1-126-964-11	ELECT	10uF	20%	50V
C451	1-162-286-31	CERAMIC	220PF	10%	50V
C452	1-130-479-00	MYLAR	0.0047uF	5%	50V
C453	1-162-303-11	CERAMIC	0.0033uF	20%	16V
C454	1-164-159-11	CERAMIC	0.1uF		50V
C456	1-124-903-11	ELECT	1uF	20%	50V
C457	1-124-902-00	ELECT	0.47uF	20%	50V
C458	1-126-964-11	ELECT	10uF	20%	50V
C459	1-124-464-11	ELECT	0.22uF	20%	50V
C460	1-162-600-11	CERAMIC	0.0047uF	30%	16V

Ref. No.	Part No.	Description			Remark
C461	1-124-903-11	ELECT	1uF	20%	50V
C801	1-136-165-00	FILM	0. 1uF	5%	50V (AEP, UK, G, IT, EE)
C801	1-137-399-11	FILM	0. 1uF	10%	100V (E, EA, SP, MY, HK, MX, AR, AUS)
C802	1-136-165-00	FILM	0. 1uF	5%	50V (AEP, UK, G, IT, EE)
C802	1-137-399-11	FILM	0. 1uF	10%	100V (E, EA, SP, MY, HK, MX, AR, AUS)
C803	1-126-974-11	ELECT	3300uF	20%	50V (AEP, UK, G, IT, EE)
C803	1-126-138-11	ELECT	4700uF	20%	50V (E, EA, SP, MY, HK, MX, AR, AUS)
C804	1-126-974-11	ELECT	3300uF	20%	50V (AEP, UK, G, IT, EE)
C804	1-126-138-11	ELECT	4700uF	20%	50V (E, EA, SP, MY, HK, MX, AR, AUS)
C805	1-124-122-11	ELECT	100uF	20%	50V
C806	1-124-122-11	ELECT	100uF	20%	50V
C808	1-126-947-11	ELECT	47uF	20%	35V
C809	1-126-936-11	ELECT	3300uF	20%	16V
C810	1-126-943-11	ELECT	2200uF	20%	25V
C811	1-126-952-11	ELECT	1000uF	20%	16V
C812	1-126-952-11	ELECT	1000uF	20%	16V
C813	1-164-159-11	CERAMIC	0. 1uF		50V
C814	1-164-159-11	CERAMIC	0. 1uF		50V
C815	1-126-933-11	ELECT	100uF	20%	10V
C824	1-126-933-11	ELECT	100uF	20%	10V
C825	1-126-933-11	ELECT	100uF	20%	10V
C826	1-126-916-11	ELECT	1000uF	20%	6. 3V
C827	1-126-925-11	ELECT	470uF	20%	10V
C828	1-124-635-00	ELECT	220uF	20%	6. 3V
C829	1-124-635-00	ELECT	220uF	20%	6. 3V
C830	1-124-257-00	ELECT	2. 2uF	20%	50V
C831	1-126-964-11	ELECT	10uF	20%	50V
C832	1-126-964-11	ELECT	10uF	20%	50V
C833	1-126-233-11	ELECT	22uF	20%	50V
C834	1-136-165-00	FILM	0. 1uF	5%	50V
C835	1-126-933-11	ELECT	100uF	20%	10V
C835	1-126-964-11	ELECT	10uF	20%	50V
C836	1-164-159-11	CERAMIC	0. 1uF		50V
C837	1-164-159-11	CERAMIC	0. 1uF		50V
C838	1-126-933-11	ELECT	100uF	20%	10V
C840	1-124-126-00	ELECT	47uF	20%	16V
C886	1-164-159-11	CERAMIC	0. 1uF		50V
C887	1-164-159-11	CERAMIC	0. 1uF		50V
C9001	1-162-306-11	CERAMIC	0. 01uF	20%	16V (AEP, G, IT, UK)
C9002	1-162-306-11	CERAMIC	0. 01uF	20%	16V (AEP, G, IT, UK)

Ref. No.	Part No.	Description	Remark
		< FILTER >	
CF1	1-567-389-11	FILTER, CERAMIC	
CF2	1-567-389-11	FILTER, CERAMIC	(AE2, UK, G, IT)
CF3	1-567-389-11	FILTER, CERAMIC	
		< CONNECTOR >	
CN101	1-691-767-11	PLUG (MICRO CONNECTOR) 5P	
* CN103	1-568-954-11	PIN, CONNECTOR 5P	
* CN105	1-568-836-11	SOCKET, CONNECTOR 17P	
CN111	1-568-802-11	SOCKET, CONNECTOR 19P	
CN401	1-568-838-11	SOCKET, CONNECTOR 21P	
* CN402	1-568-830-11	SOCKET, CONNECTOR 11P	
* CN404	1-568-449-11	HOUSING, CONNECTOR (PC BOARD) 3P	
		< VARIABLE CAPACITOR >	
CV1	1-141-227-00	CAP, TRIMMER 20PF	(E3, EA, SP, MY, HK)
CV2	1-141-227-00	CAP, TRIMMER 20PF	(E3, EA, SP, MY, HK)
		< DIODE >	
D1	8-719-976-30	DIODE KV1560N	(E3, EA, SP, MY, HK)
D21	8-719-933-33	DIODE HZS6A1L	(E, EA, AR, HK, MY, SP, AUS, EE)
D41	8-719-987-63	DIODE 1N4148M	
D81	8-719-933-33	DIODE HZS6A1L	(AEP, UK, G, IT)
D82	8-719-987-63	DIODE 1N4148M	(AEP, UK, G, IT)
D83	8-719-987-63	DIODE 1N4148M	(AEP, UK, G, IT)
D101	8-719-010-33	DIODE UZ-4. 7BSB-TP	
D102-105	8-719-987-63	DIODE 1N4148M	
D106	8-719-210-21	DIODE 11EQS04-TA2B	
D107	8-719-987-63	DIODE 1N4148M	
D301	8-719-024-99	DIODE 11ES2-NTA2B	
D302	8-719-987-63	DIODE 1N4148M	
D304	8-719-987-63	DIODE 1N4148M	
D305	8-719-987-63	DIODE 1N4148M	(AEP, UK, G, IT)
D401	8-719-987-63	DIODE 1N4148M	
D402	8-719-987-63	DIODE 1N4148M	(E, EA, AR, HK, MX, MY, SP, AUS, EE)
D801	8-719-987-63	DIODE 1N4148M	
D802	8-719-987-63	DIODE 1N4148M	
D803	8-719-312-09	DIODE RBA-402	(AEP, UK, G, IT, EE)
D803	8-719-510-68	DIODE D5SBA20F01	(E, EA, SP, MY, HK, MX, AR, AUS)
D804	8-719-024-99	DIODE 11ES2-NTA2B	
D805	8-719-024-99	DIODE 11ES2-NTA2B	
D806	8-719-934-18	DIODE HZS27-2L	
D807	8-719-024-99	DIODE 11ES2-NTA2B	
D808	8-719-024-99	DIODE 11ES2-NTA2B	

MAIN

Ref. No.	Part No.	Description	Remark
D809	8-719-987-63	DIODE 1N4148M	
D810	8-719-987-63	DIODE 1N4148M	
D811	8-719-024-99	DIODE 11ES2-NTA2B	
D812	8-719-024-99	DIODE 11ES2-NTA2B	(AEP, UK, G, IT, EE)
D812	8-719-210-21	DIODE 11EQS04	(E, EA, AR, HK, MX, MY, SP, AUS)
D813	8-719-024-99	DIODE 11ES2-NTA2B	
D814	8-719-024-99	DIODE 11ES2-NTA2B	(AEP, UK, G, IT, EE)
D814	8-719-210-21	DIODE 11EQS04	(E, EA, AR, HK, MX, MY, SP, AUS)
D815	8-719-987-63	DIODE 1N4148M	
D817	8-719-987-63	DIODE 1N4148M	(E, EA, AR, HK, MX, MY, SP, AUS, EE)
D819	8-719-987-63	DIODE 1N4148M	
D823	8-719-024-99	DIODE 11ES2-NTA2B	
D824	8-719-024-99	DIODE 11ES2-NTA2B	

< FRONT END >

Ref. No.	Part No.	Description	Remark
FE1	1-465-673-11	FRONT END (2 BAND)	(AE1, UK1)
FE1	1-693-217-11	FRONT END (4 GANG)	(AE2, UK2, G, IT)
FE1	1-465-396-11	FRONT END (3 GANG)	(EE)
FE1	1-693-090-51	FRONT END (FM) (2 GANG)	(E, EA, SP, MY, HK, MX, AR, AUS)
FE2	1-233-281-11	ENCAPSULATED COMPONENT	(AEP, UK, EE)
FE2	1-239-260-11	ENCAPSULATED COMPONENT	(G, IT, E2, MX, AR, AUS)
FE2	1-239-262-11	ENCAPSULATED COMPONENT	(E3, EA, SP, MY, HK)

< IC >

Ref. No.	Part No.	Description	Remark
IC1	8-759-200-60	IC TA7060AP	(AE2, UK, G, IT)
IC2	8-759-200-60	IC TA7060AP	(AE2, UK, G, IT)
IC21	8-759-288-54	IC LC72130	
IC41	8-759-176-03	IC LA1835	
IC81	8-759-634-51	IC M5218AP	(AEP, UK, G, IT)
IC82	8-759-169-99	IC SAA6579	(AEP, UK, G, IT)
IC83	8-759-062-26	IC LC7073	(AEP, UK, G, IT)
IC101	8-759-333-93	IC TMP87CP64F-6254	
IC102	8-759-000-48	IC MC14052BCP	
IC104	8-759-140-53	IC uPD4053BC	(E, EA, SP, MY, HK, MX, AR, AUS)
IC105	8-759-822-09	IC LB1641	
IC107	8-759-634-51	IC M5218AP	
IC108	8-759-291-98	IC M62423FP	
IC109	8-759-281-42	IC TC9210P	
IC301	8-759-916-14	IC SN74HC04AN	
IC401	8-759-289-38	IC HA12195NT	
IC402	8-759-822-09	IC LB1641	
IC801	8-759-111-68	IC uPC1237HA	
IC802	8-759-231-53	IC TA7805S	
IC803	8-759-231-58	IC TA7812S	
IC804	8-759-288-53	IC LA5617	
IC805	8-759-165-80	IC PST600C-T	
IC806	8-759-604-30	IC M5F7808	

< IFT >

Ref. No.	Part No.	Description	Remark
IFT41	1-404-853-11	TRANSFORMER, IF (CERAMIC FILTER)	

< JACK >

Ref. No.	Part No.	Description	Remark
* J101	1-569-130-11	JACK, PIN 2P (AUX)	

< COIL >

Ref. No.	Part No.	Description	Remark
L1	1-410-521-11	INDUCTOR 100uH	(E3, EA, SP, MY, HK)
L2	1-408-397-00	INDUCTOR 1uH	(AEP, UK, G, IT)
L41	1-407-500-00	INDUCTOR 4.7mH	
L81	1-410-521-11	INDUCTOR 100uH	(AEP, UK, G, IT)
L401	1-410-482-31	INDUCTOR 100uH	
L801	1-420-872-00	COIL, AIR-CORE	(AE2, UK, G, IT)
L851	1-420-872-00	COIL, AIR-CORE	(AE2, UK, G, IT)

< FILTER >

Ref. No.	Part No.	Description	Remark
LPF41	1-239-845-11	FILTER, LOW PASS	
LPF42	1-239-845-11	FILTER, LOW PASS	

< TRANSISTOR >

Ref. No.	Part No.	Description	Remark
Q1	8-729-230-99	TRANSISTOR 2SC2669-OY	(AE1, EE, E, EA, SP, MY, HK, MX, AR, AUS)
Q2	8-729-230-99	TRANSISTOR 2SC2669-OY	(AE1, EE, E, EA, SP, MY, HK, MX, AR, AUS)
Q3	8-729-422-57	TRANSISTOR UN4111	
Q8	8-729-231-20	TRANSISTOR 2SK161-YGR	(E3, EA, SP, MY, HK)
Q9	8-729-119-76	TRANSISTOR 2SA1175-HFE	(E3, EA, SP, MY, HK)
Q10	8-729-119-76	TRANSISTOR 2SA1175-HFE	(E3, EA, SP, MY, HK)
Q11	8-729-900-80	TRANSISTOR DTC114ES	(AEP, UK, EE)
Q12	8-729-900-80	TRANSISTOR DTC114ES	(AEP, UK, EE, E3, EA, SP, MY, HK)
Q13	8-729-900-80	TRANSISTOR DTC114ES	(AEP, UK, EE, E3, EA, SP, MY, HK)
Q14	8-729-900-80	TRANSISTOR DTC114ES	(AEP, UK, EE, E3, EA, SP, MY, HK)
Q105	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q107	8-729-900-80	TRANSISTOR DTC114ES	
Q108	8-729-900-80	TRANSISTOR DTC114ES	
Q110	8-729-900-80	TRANSISTOR DTC114ES	(E, EA, SP, MY, HK, MX, AR, AUS)
Q170	8-729-422-57	TRANSISTOR UN4111	
Q171	8-729-116-83	TRANSISTOR 2SD1616K	
Q172	8-729-116-83	TRANSISTOR 2SD1616K	

Ref. No.	Part No.	Description	Remark
Q173	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q174	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q303	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q305	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q306	8-729-900-63	TRANSISTOR DTA124ES	
Q401	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q403	8-729-900-65	TRANSISTOR DTA144ES	
Q404	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q405-407	8-729-116-83	TRANSISTOR 2SD1616K	
Q408	8-729-422-57	TRANSISTOR UN4111	
Q409	8-729-900-80	TRANSISTOR DTC114ES	
Q410	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q411	8-729-900-80	TRANSISTOR DTC114ES	
Q412-414	8-729-900-65	TRANSISTOR DTA144ES	
Q451	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q801	8-729-900-63	TRANSISTOR DTA124ES	
Q802	8-729-900-89	TRANSISTOR DTC144ES	
Q807	8-729-900-89	TRANSISTOR DTC144ES	
Q808	8-729-118-01	TRANSISTOR 2SB1116-K	
Q809	8-729-900-89	TRANSISTOR DTC144ES	
Q810	8-729-118-01	TRANSISTOR 2SB1116-K	
Q811	8-729-118-01	TRANSISTOR 2SB1116-K	
Q812	8-729-422-57	TRANSISTOR UN4111	
Q813	8-729-116-83	TRANSISTOR 2SD1616-K	
Q814	8-729-900-80	TRANSISTOR DTC114ES	
		< RESISTOR >	
R3	1-247-807-31	CARBON 100 5% 1/4W	
R4	1-249-411-11	CARBON 330 5% 1/4W	
R5	1-249-411-11	CARBON 330 5% 1/4W	
R6	1-249-409-11	CARBON 220 5% 1/4W	(AEP, G, IT, EE, UK)
R6	1-249-413-11	CARBON 470 5% 1/4W	(E, EA, AR, HK, MX, MY, SP, AUS)
R7	1-249-411-11	CARBON 330 5% 1/4W	
R8	1-249-432-11	CARBON 18K 5% 1/4W	
R9	1-249-434-11	CARBON 27K 5% 1/4W	
R10	1-249-411-11	CARBON 330 5% 1/4W	
R11	1-249-411-11	CARBON 330 5% 1/4W	(AE2, UK, G, IT)
R12	1-249-432-11	CARBON 18K 5% 1/4W	(AE2, UK, G, IT)
R13	1-249-434-11	CARBON 27K 5% 1/4W	(AE2, UK, G, IT)
R14	1-249-411-11	CARBON 330 5% 1/4W	(AE2, UK, G, IT)
R15	1-249-414-11	CARBON 560 5% 1/4W	(AE1, EE, E, EA, SP, MY, HK, MX, AR, AUS)
R17	1-247-807-31	CARBON 100 5% 1/4W	
R18	1-249-429-11	CARBON 10K 5% 1/4W	(AEP, UK, EE, E3, EA, SP, MY, HK)
R19	1-249-429-11	CARBON 10K 5% 1/4W	(AEP, UK, EE, E3, EA, SP, MY, HK)
R20	1-247-903-00	CARBON 1M 5% 1/4W	(E3, EA, SP, MY, HK)
R21-24	1-249-417-11	CARBON 1K 5% 1/4W	
R25	1-249-425-11	CARBON 4.7K 5% 1/4W	
R26	1-249-435-11	CARBON 33K 5% 1/4W	
R27	1-249-429-11	CARBON 10K 5% 1/4W	
R28	1-249-417-11	CARBON 1K 5% 1/4W	
R29	1-249-423-11	CARBON 3.3K 5% 1/4W	
R30	1-247-807-31	CARBON 100 5% 1/4W	(E, EA, AR, HK, MX, MY, SP, AUS)
R30	1-247-811-31	CARBON 150 5% 1/4W	(AEP, G, IT, EE, UK)
R31	1-247-807-31	CARBON 100 5% 1/4W	
R32	1-249-421-11	CARBON 2.2K 5% 1/4W	
R33-35	1-249-425-11	CARBON 4.7K 5% 1/4W	
R36	1-247-807-31	CARBON 100 5% 1/4W	
R37	1-249-429-11	CARBON 10K 5% 1/4W	
R38	1-249-437-11	CARBON 47K 5% 1/4W	
R41	1-249-437-11	CARBON 47K 5% 1/4W	
R42	1-249-423-11	CARBON 3.3K 5% 1/4W	
R43	1-249-442-11	CARBON 510 5% 1/4W	
R44	1-247-807-31	CARBON 100 5% 1/4W	
R45	1-247-842-11	CARBON 3K 5% 1/4W	
R46	1-249-429-11	CARBON 10K 5% 1/4W	
R47	1-249-441-11	CARBON 100K 5% 1/4W	
R48	1-249-423-11	CARBON 3.3K 5% 1/4W	
R49	1-249-423-11	CARBON 3.3K 5% 1/4W	
R50	1-249-426-11	CARBON 5.6K 5% 1/4W	
R51	1-249-426-11	CARBON 5.6K 5% 1/4W	
R52	1-249-435-11	CARBON 33K 5% 1/4W	
R53	1-249-429-11	CARBON 10K 5% 1/4W	
R54	1-249-399-11	CARBON 33 5% 1/4W	
R81	1-247-807-31	CARBON 100 5% 1/4W	(AEP, UK, G, IT)
R82	1-249-429-11	CARBON 10K 5% 1/4W	(AEP, UK, G, IT)
R83	1-249-441-11	CARBON 100K 5% 1/4W	(AEP, UK, G, IT)
R84	1-249-441-11	CARBON 100K 5% 1/4W	(AEP, UK, G, IT)
R85	1-249-421-11	CARBON 2.2K 5% 1/4W	(AEP, UK, G, IT)
R86	1-247-807-31	CARBON 100 5% 1/4W	(AEP, UK, G, IT)
R87	1-247-807-31	CARBON 100 5% 1/4W	(AEP, UK, G, IT)
R88	1-249-426-11	CARBON 5.6K 5% 1/4W	(AEP, UK, G, IT)
R91	1-249-425-11	CARBON 4.7K 5% 1/4W	(E3, EA, SP, MY, HK)
R92-94	1-249-429-11	CARBON 10K 5% 1/4W	(E3, EA, SP, MY, HK)
R101	1-249-425-11	CARBON 4.7K 5% 1/4W	
R102	1-249-427-11	CARBON 6.8K 5% 1/4W	
R111	1-249-429-11	CARBON 10K 5% 1/4W	
R112	1-249-429-11	CARBON 10K 5% 1/4W	

MAIN

Ref. No.	Part No.	Description	Remark
R114	1-249-429-11	CARBON 10K 5% 1/4W	(E, EA, SP, MY, HK, MX, AR, AUS)
R128-130	1-249-441-11	CARBON 100K 5% 1/4W	
R131	1-247-903-00	CARBON 1M 5% 1/4W	
R133	1-249-417-11	CARBON 1K 5% 1/4W	
R134	1-247-895-00	CARBON 470K 5% 1/4W	
R135	1-249-441-11	CARBON 100K 5% 1/4W	
R144	1-249-415-11	CARBON 680 5% 1/4W	
R145	1-249-417-11	CARBON 1K 5% 1/4W	
R148	1-249-431-11	CARBON 15K 5% 1/4W	
R149	1-249-441-11	CARBON 100K 5% 1/4W	
R150	1-249-421-11	CARBON 2.2K 5% 1/4W	
R151	1-249-425-11	CARBON 4.7K 5% 1/4W	
R152	1-249-427-11	CARBON 6.8K 5% 1/4W	
R154	1-249-441-11	CARBON 100K 5% 1/4W	
R155	1-249-441-11	CARBON 100K 5% 1/4W	
R156	1-249-429-11	CARBON 10K 5% 1/4W	
R157	1-249-429-11	CARBON 10K 5% 1/4W	
R158	1-249-433-11	CARBON 22K 5% 1/4W	
R159	1-249-433-11	CARBON 22K 5% 1/4W	
R160	1-249-429-11	CARBON 10K 5% 1/4W	
R161	1-249-429-11	CARBON 10K 5% 1/4W	
R162	1-247-895-00	CARBON 470K 5% 1/4W	
R163	1-247-895-00	CARBON 470K 5% 1/4W	
R164	1-249-419-11	CARBON 1.5K 5% 1/4W	
R165	1-249-419-11	CARBON 1.5K 5% 1/4W	
R168	1-249-425-11	CARBON 4.7K 5% 1/4W	
R169	1-249-425-11	CARBON 4.7K 5% 1/4W	
R170	1-249-441-11	CARBON 100K 5% 1/4W	
R171	1-249-425-11	CARBON 4.7K 5% 1/4W	
R172	1-249-421-11	CARBON 2.2K 5% 1/4W	
R173	1-249-429-11	CARBON 10K 5% 1/4W	
R174	1-249-425-11	CARBON 4.7K 5% 1/4W	
R175	1-249-421-11	CARBON 2.2K 5% 1/4W	
R176	1-249-429-11	CARBON 10K 5% 1/4W	
R178	1-249-423-11	CARBON 3.3K 5% 1/4W	
R180	1-249-441-11	CARBON 100K 5% 1/4W	
R181	1-249-429-11	CARBON 10K 5% 1/4W	
R182	1-249-429-11	CARBON 10K 5% 1/4W	
R183	1-249-413-11	CARBON 470 5% 1/4W	
R184	1-247-903-00	CARBON 1M 5% 1/4W	
R185	1-247-903-00	CARBON 1M 5% 1/4W	
R188	1-249-423-11	CARBON 3.3K 5% 1/4W	
R194	1-249-415-11	CARBON 680 5% 1/4W	
R195	1-249-417-11	CARBON 1K 5% 1/4W	
R198	1-249-431-11	CARBON 15K 5% 1/4W	
R199	1-249-441-11	CARBON 100K 5% 1/4W	
R300	1-249-429-11	CARBON 10K 5% 1/4W	

Ref. No.	Part No.	Description	Remark
R301	1-249-429-11	CARBON 10K 5% 1/4W	
R304	1-249-437-11	CARBON 47K 5% 1/4W	
R306	1-249-429-11	CARBON 10K 5% 1/4W	
R307	1-249-429-11	CARBON 10K 5% 1/4W	
R309-315	1-247-807-31	CARBON 100 5% 1/4W	
R316	1-249-437-11	CARBON 47K 5% 1/4W	
R317	1-249-433-11	CARBON 22K 5% 1/4W	
R318-320	1-249-425-11	CARBON 4.7K 5% 1/4W	
R325	1-249-429-11	CARBON 10K 5% 1/4W	
R333	1-249-423-11	CARBON 3.3K 5% 1/4W	
R334	1-249-429-11	CARBON 10K 5% 1/4W	
R335	1-249-429-11	CARBON 10K 5% 1/4W	
R338-347	1-247-807-31	CARBON 100 5% 1/4W	
R348	1-249-413-11	CARBON 470 5% 1/4W	
R349	1-249-413-11	CARBON 470 5% 1/4W	
R364	1-249-425-11	CARBON 4.7K 5% 1/4W	
R373	1-249-433-11	CARBON 22K 5% 1/4W	(AEP, UK)
R373	1-249-429-11	CARBON 10K 5% 1/4W	(G, E2, MX, AR, AUS)
R373	1-249-431-11	CARBON 15K 5% 1/4W	(IT, EE)
R373	1-249-423-11	CARBON 3.3K 5% 1/4W	(E3, EA, SP, MY, HK)
R374	1-249-429-11	CARBON 10K 5% 1/4W	(AEP, UK, G, IT, EA)
R374	1-249-423-11	CARBON 3.3K 5% 1/4W	(EE)
R374	1-249-433-11	CARBON 22K 5% 1/4W	(E2, MX, AR)
R374	1-249-431-11	CARBON 15K 5% 1/4W	(E3, SP, MY, HK, AUS)
R375	1-249-418-11	CARBON 1.2K 5% 1/4W	
R376	1-249-431-11	CARBON 15K 5% 1/4W	
R378-381	1-249-429-11	CARBON 10K 5% 1/4W	
R395	1-249-421-11	CARBON 2.2K 5% 1/4W	(AEP, UK, G, IT)
R401	1-249-430-11	CARBON 12K 5% 1/4W	
R402	1-249-431-11	CARBON 15K 5% 1/4W	
R403	1-249-427-11	CARBON 6.8K 5% 1/4W	
R404	1-249-425-11	CARBON 4.7K 5% 1/4W	
R405	1-249-418-11	CARBON 1.2K 5% 1/4W	
R406	1-249-417-11	CARBON 1K 5% 1/4W	
R407	1-249-437-11	CARBON 47K 5% 1/4W	
R408	1-249-417-11	CARBON 1K 5% 1/4W	
R409	1-249-433-11	CARBON 22K 5% 1/4W	
R420	1-249-432-11	CARBON 18K 5% 1/4W	
R421-429	1-249-429-11	CARBON 10K 5% 1/4W	
R430	1-247-866-11	CARBON 30K 5% 1/4W	
R431	1-247-882-11	CARBON 130K 5% 1/4W	

Ref. No.	Part No.	Description	Remark
R432	1-249-429-11	CARBON 10K 5% 1/4W	
R433-435	1-249-425-11	CARBON 4.7K 5% 1/4W	
R436	1-249-417-11	CARBON 1K 5% 1/4W	
R437	1-249-436-11	CARBON 39K 5% 1/4W	
R438	1-249-436-11	CARBON 39K 5% 1/4W	
R439	1-249-437-11	CARBON 47K 5% 1/4W	
R440	1-249-437-11	CARBON 47K 5% 1/4W	
R441	1-249-381-11	CARBON 1 5% 1/4W	
R442	1-249-413-11	CARBON 470 5% 1/4W	
R443	1-249-381-11	CARBON 1 5% 1/4W	
R444	1-249-413-11	CARBON 470 5% 1/4W	
R445	1-249-381-11	CARBON 1 5% 1/4W	
R446	1-249-413-11	CARBON 470 5% 1/4W	
R447	1-249-419-11	CARBON 1.5K 5% 1/4W	
R448	1-249-433-11	CARBON 22K 5% 1/4W	
R449	1-249-435-11	CARBON 33K 5% 1/4W	
R450	1-249-433-11	CARBON 22K 5% 1/4W	
R451	1-249-430-11	CARBON 12K 5% 1/4W	
R452	1-249-431-11	CARBON 15K 5% 1/4W	
R453	1-249-427-11	CARBON 6.8K 5% 1/4W	
R454	1-249-425-11	CARBON 4.7K 5% 1/4W	
R455	1-249-418-11	CARBON 1.2K 5% 1/4W	
R456	1-249-417-11	CARBON 1K 5% 1/4W	
R457	1-249-437-11	CARBON 47K 5% 1/4W	
R458	1-249-417-11	CARBON 1K 5% 1/4W	
R459	1-249-433-11	CARBON 22K 5% 1/4W	
R460-462	1-249-425-11	CARBON 4.7K 5% 1/4W	
R470	1-249-433-11	CARBON 22K 5% 1/4W	
R480	1-247-864-11	CARBON 24K 5% 1/4W	
⚠R801	1-219-122-91	FUSIBLE 0.33 5% 1/4W	F
⚠R802	1-219-122-91	FUSIBLE 0.33 5% 1/4W	F
R803	1-249-429-11	CARBON 10K 5% 1/4W	
R804	1-249-429-11	CARBON 10K 5% 1/4W	
⚠R805	1-219-122-91	FUSIBLE 0.33 5% 1/4W	F
R806	1-249-417-11	CARBON 1K 5% 1/4W	
R808	1-249-417-11	CARBON 1K 5% 1/4W	
⚠R814	1-219-122-91	FUSIBLE 0.33 5% 1/4W	F
R820	1-249-421-11	CARBON 2.2K 5% 1/4W	
R821	1-249-409-11	CARBON 220 5% 1/4W	
R822	1-249-429-11	CARBON 10K 5% 1/4W	
R823	1-249-421-11	CARBON 2.2K 5% 1/4W	
R824	1-249-429-11	CARBON 10K 5% 1/4W	
R825	1-249-441-11	CARBON 100K 5% 1/4W	
R826	1-249-397-11	CARBON 22 5% 1/4W	
R827	1-249-435-11	CARBON 33K 5% 1/4W	
R828	1-249-425-11	CARBON 4.7K 5% 1/4W	
R829	1-249-425-11	CARBON 4.7K 5% 1/4W	
R830	1-249-409-11	CARBON 220 5% 1/4W	
R831	1-249-439-11	CARBON 68K 5% 1/4W	
R832-834	1-249-389-11	CARBON 4.7 5% 1/4W	(AE2, UK, G, IT)
R834	1-249-393-11	CARBON 10 5% 1/4W	(AE1, E, EA, AR, HK, MX, MY, SP, AUS, EE)
R835	1-249-409-11	CARBON 220 5% 1/4W	
R836	1-249-397-11	CARBON 22 5% 1/4W	
R838	1-249-429-11	CARBON 10K 5% 1/4W	
R840	1-249-417-11	CARBON 1K 5% 1/4W	(AEP, UK, G, IT, EE)
R840	1-260-099-11	CARBON 1K 5% 1/2W	(E, EA, SP, MY, HK, MX, AR, AUS)
R841	1-249-417-11	CARBON 1K 5% 1/4W	(AEP, UK, G, IT, EE)
R841	1-260-099-11	CARBON 1K 5% 1/2W	(E, EA, SP, MY, HK, MX, AR, AUS)
R881	1-249-437-11	CARBON 47K 5% 1/4W	
R882-884	1-249-389-11	CARBON 4.7 5% 1/4W	(AE2, UK, G, IT)
R884	1-249-393-11	CARBON 10 5% 1/4W	(AE1, E, EA, AR, HK, MX, MY, SP, AUS. EE)
R890	1-249-417-11	CARBON 1K 5% 1/4W	(AEP, UK, G, IT, EE)
R890	1-260-099-11	CARBON 1K 5% 1/2W	(E, EA, SP, MY, HK, MX, AR, AUS)
R891	1-249-417-11	CARBON 1K 5% 1/4W	(AEP, UK, G, IT, EE)
R891	1-260-099-11	CARBON 1K 5% 1/2W	(E, EA, SP, MY, HK, MX, AR, AUS)

< VARIABLE RESISTOR >

Ref. No.	Part No.	Description	Remark
RV41	1-241-765-11	RES, ADJ, CARBON 22K (AM TUNING LEVEL)	
RV42	1-241-630-11	RES, ADJ, CARBON 10K (FM TUNING LEVEL)	
RV401	1-241-630-11	RES, ADJ, CARBON 10K (REC LEVEL L)	
RV451	1-241-630-11	RES, ADJ, CARBON 10K (REC LEVEL R)	

< RELAY >

Ref. No.	Part No.	Description	Remark
RY801	1-515-921-11	RELAY (12V)	

< TRANSFORMER >

Ref. No.	Part No.	Description	Remark
T1	1-409-505-11	COIL (ANT. SW3)	(E3, EA, SP, MY, HK)
T2	1-402-960-11	COIL (OSC SW3)	(E3, EA, SP, MY, HK)

< TERMINAL >

Ref. No.	Part No.	Description	Remark
TB101	1-537-240-31	TERMINAL BOARD (SPEAKER)	
TB102	1-537-240-31	TERMINAL BOARD (SURROUND SPEAKER)	

< TERMINAL >

Ref. No.	Part No.	Description	Remark
TM1	1-537-488-11	TERMINAL BOARD (ANTENNA)	(AEP, UK, G, IT, EE)
TM1	1-537-238-21	TERMINAL BOARD	(E, EA, SP, MY, HK, MX, AR, AUS)

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

MAIN | PANEL | AMS ENCODER

< FILTER >

Ref. No.	Part No.	Description	Remark
X41	1-760-220-21	FILTER, CERAMIC	
X42	1-527-981-00	FILTER, CERAMIC	

< VIBRATOR >

Ref. No.	Part No.	Description	Remark
X21	1-578-785-11	VIBRATOR, CRYSTAL (4.5MHz)	
X43	1-577-075-11	OSCILLATOR, CERAMIC (19MHz)	
X81	1-579-900-21	VIBRATOR, CRYSTAL (4.332MHz)	(AEP, UK, G, IT)
X82	1-577-358-21	VIBRATOR, CERAMIC (4MHz)	(AEP, UK, G, IT)
X301	1-579-125-11	VIBRATOR, CERAMIC (8MHz)	
X302	1-567-098-41	VIBRATOR, CRYSTAL (32.768kHz)	

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Ref. No.	Part No.	Description	Remark
*	A-4377-338-A	PANEL BOARD, COMPLETE	(E, EA, SP, MY, HK, MX, AR, AUS)
*	A-4377-350-A	PANEL BOARD, COMPLETE	(AEP, UK, G, IT, EE)

****

AMS ENCORDER BOARD

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Ref. No.	Part No.	Description	Remark
*	4-971-014-11	HOLDER, FL TUBE	

< CAPACITOR >

Ref. No.	Part No.	Description			Remark
C501	1-124-261-00	ELECT	10uF	20%	50V
C502	1-162-282-31	CERAMIC	100PF	10%	50V
C503	1-124-589-11	ELECT	47uF	20%	16V
C504-507	1-162-306-11	CERAMIC	0.01uF	30%	16V
C508	1-162-294-31	CERAMIC	0.001uF	10%	50V
C511-547	1-162-286-31	CERAMIC	220PF	10%	50V
C548	1-162-294-31	CERAMIC	0.001uF	10%	50V
C549	1-124-257-00	ELECT	2.2uF	20%	50V
C550	1-164-159-11	CERAMIC	0.1uF		50V
C551	1-126-163-11	ELECT	4.7uF	20%	50V
C559	1-162-294-31	CERAMIC	0.001uF	10%	50V
C560	1-162-294-31	CERAMIC	0.001uF	10%	50V
C600-602	1-162-306-11	CERAMIC	0.01uF	30%	16V
C603	1-124-257-00	ELECT	2.2uF	20%	50V
C604	1-162-303-11	CERAMIC	0.0033uF	30%	16V
C605	1-162-303-11	CERAMIC	0.0033uF	30%	16V
C606	1-162-306-11	CERAMIC	0.01uF	30%	16V
C607	1-124-257-00	ELECT	2.2uF	20%	50V
C608	1-162-294-31	CERAMIC	0.001uF	10%	50V
C609	1-162-294-31	CERAMIC	0.001uF	10%	50V
C610	1-162-306-11	CERAMIC	0.01uF	30%	16V
C611	1-124-257-00	ELECT	2.2uF	20%	50V
C612	1-162-286-31	CERAMIC	220PF	10%	50V
C613	1-162-286-31	CERAMIC	220PF	10%	50V
C614	1-162-306-11	CERAMIC	0.01uF	30%	16V
C615	1-124-257-00	ELECT	2.2uF	20%	50V

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
CN501	1-568-860-11	SOCKET, CONNECTOR 17P	
* CN503	1-568-945-11	PIN, CONNECTOR 7P	
* CN507	1-564-518-11	PLUG, CONNECTOR 3P	

< DIODE >

Ref. No.	Part No.	Description	Remark
D504	8-719-052-43	LED SML59420C-TP4 (▶II)	
D505	8-719-300-71	LED SEL2210R (REC●)	
D506	8-719-033-06	LED SEL5920A (USER FILE)	
D507	8-719-301-59	LED SEL2910A (POSP)	
D508	8-719-301-59	LED SEL2910A (CLASSIC)	
D510	8-719-301-59	LED SEL2910A (CD)	
D511	8-719-812-44	LED TLO124 (ENTER/NEXT)	
D519	8-719-329-10	LED SEL2910D-TP3 (PAUSE▮▮)	
D520	8-719-301-59	LED SEL2910A (ROCK)	
D521	8-719-301-59	LED SEL2910A (JAZZ)	
D522	8-719-301-59	LED SEL2910A (DANCE)	
D523	8-719-301-59	LED SEL2910A (TUNER)	
D524	8-719-301-59	LED SEL2910A (TIMER)	
D525	8-719-301-43	LED SEL2410E-C-TP6 (TUNER/BAND)	
D529	8-719-014-73	LED UZP-5.6BC-TP	
D530-533	8-719-987-63	DIODE 1N4148M	
D541	8-719-301-59	LED SEL2910A (ROCK)	
D542	8-719-301-59	LED SEL2910A (POPS)	
D543	8-719-301-59	LED SEL2910A (JAZZ)	
D544	8-719-301-59	LED SEL2910A (CLASSIC)	
D545	8-719-301-59	LED SEL2910A (DANCE)	
D550	8-719-301-59	LED SEL2910A (CD)	
D551	8-719-301-59	LED SEL2910A (TUNER)	
D552	8-719-301-59	LED SEL2910A (TIMER)	

< INDICATOR TUBE >

Ref. No.	Part No.	Description	Remark
FL501	1-517-341-21	INDICATOR TUBE, FLUORESCENT	

< IC >

Ref. No.	Part No.	Description	Remark
IC501	8-752-862-43	IC CXP82612-006Q	
IC502	8-749-923-43	IC GP1U57XB	
IC503	8-759-634-51	IC M5218AP	
IC504	8-759-634-51	IC M5218AP	

< PILOT LAMP >

Ref. No.	Part No.	Description	Remark
PL501	1-518-511-21	LAMP, PILOT (EQ CONTROL)	

AMS ENCODER PANEL

Ref. No.	Part No.	Description	Remark
		< TRANSISTOR >	
Q501	8-729-900-80	TRANSISTOR DTC114ES	
Q502	8-729-118-01	TRANSISTOR 2SB1116-K	
Q503	8-729-118-01	TRANSISTOR 2SB1116-K	
Q507	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q511-520	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q523	8-729-422-57	TRANSISTOR UN4111	
Q524	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q525	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q526	8-729-900-80	TRANSISTOR DTC114ES	
		< RESISTOR >	
R501-510	1-249-429-11	CARBON 10K 5%	1/4W
R511	1-249-419-11	CARBON 1.5K 5%	1/4W
R512	1-247-811-31	CARBON 150 5%	1/4W
R513	1-249-410-11	CARBON 270 5%	1/4W
R514	1-249-408-11	CARBON 180 5%	1/4W
R515	1-249-409-11	CARBON 220 5%	1/4W
R516	1-249-411-11	CARBON 330 5%	1/4W
R517	1-249-413-11	CARBON 470 5%	1/4W
R518	1-249-403-11	CARBON 68 5%	1/4W
R519	1-247-807-31	CARBON 100 5%	1/4W
R520	1-247-807-31	CARBON 100 5%	1/4W
R522	1-249-401-11	CARBON 47 5%	1/4W
R523	1-249-409-11	CARBON 220 5%	1/4W
R524	1-249-419-11	CARBON 1.5K 5%	1/4W
R525	1-247-811-31	CARBON 150 5%	1/4W
R526	1-249-410-11	CARBON 270 5%	1/4W
R527	1-249-408-11	CARBON 180 5%	1/4W
R537	1-249-419-11	CARBON 1.5K 5%	1/4W
R538	1-247-811-31	CARBON 150 5%	1/4W
R539	1-249-410-11	CARBON 270 5%	1/4W
R540	1-249-408-11	CARBON 180 5%	1/4W
R541	1-249-409-11	CARBON 220 5%	1/4W
R542	1-249-411-11	CARBON 330 5%	1/4W
R543	1-249-413-11	CARBON 470 5%	1/4W
R544	1-249-414-11	CARBON 560 5%	1/4W
R545	1-249-416-11	CARBON 820 5%	1/4W
R546	1-249-418-11	CARBON 1.2K 5%	1/4W
R547	1-249-420-11	CARBON 1.8K 5%	1/4W
R548	1-249-423-11	CARBON 3.3K 5%	1/4W
R549	1-249-427-11	CARBON 6.8K 5%	1/4W
R550	1-249-419-11	CARBON 1.5K 5%	1/4W
R551	1-247-811-31	CARBON 150 5%	1/4W
R552	1-249-410-11	CARBON 270 5%	1/4W
R553	1-249-408-11	CARBON 180 5%	1/4W
R554	1-249-409-11	CARBON 220 5%	1/4W
R555	1-249-411-11	CARBON 330 5%	1/4W
R556	1-249-413-11	CARBON 470 5%	1/4W
R557	1-249-414-11	CARBON 560 5%	1/4W
R558	1-249-416-11	CARBON 820 5%	1/4W
R559	1-249-418-11	CARBON 1.2K 5%	1/4W
R560	1-249-420-11	CARBON 1.8K 5%	1/4W
R561	1-249-423-11	CARBON 3.3K 5%	1/4W
R562	1-249-418-11	CARBON 1.2K 5%	1/4W
R563	1-247-903-00	CARBON 1M 5%	1/4W
R564-568	1-247-807-31	CARBON 100 5%	1/4W
R569	1-249-429-11	CARBON 10K 5%	1/4W
R570	1-249-421-11	CARBON 2.2K 5%	1/4W
R571	1-249-429-11	CARBON 10K 5%	1/4W
R572	1-249-421-11	CARBON 2.2K 5%	1/4W
R576	1-247-807-31	CARBON 100 5%	1/4W
R577	1-249-402-11	CARBON 56 5%	1/4W
R578-580	1-249-399-11	CARBON 33 5%	1/4W
R581	1-249-401-11	CARBON 47 5%	1/4W
R582	1-249-401-11	CARBON 47 5%	1/4W
R583	1-247-807-31	CARBON 100 5%	1/4W
R584	1-249-402-11	CARBON 56 5%	1/4W
R585	1-247-811-31	CARBON 150 5%	1/4W
R586-588	1-249-409-11	CARBON 220 5%	1/4W
R589	1-249-421-11	CARBON 2.2K 5%	1/4W
R590	1-247-807-31	CARBON 100 5%	1/4W
R591	1-249-413-11	CARBON 470 5%	1/4W
R592	1-247-807-31	CARBON 100 5%	1/4W
R593	1-249-429-11	CARBON 10K 5%	1/4W
R595	1-249-437-11	CARBON 47K 5%	1/4W
R596	1-249-429-11	CARBON 10K 5%	1/4W
R597	1-249-409-11	CARBON 220 5%	1/4W
R598	1-247-807-31	CARBON 100 5%	1/4W
R599	1-249-408-11	CARBON 180 5%	1/4W
R600	1-249-435-11	CARBON 33K 5%	1/4W
R601	1-249-441-11	CARBON 100K 5%	1/4W
R602	1-247-895-00	CARBON 470K 5%	1/4W
R604	1-249-435-11	CARBON 33K 5%	1/4W
R605	1-249-441-11	CARBON 100K 5%	1/4W
R606	1-247-895-00	CARBON 470K 5%	1/4W
R608	1-249-435-11	CARBON 33K 5%	1/4W
R609	1-249-441-11	CARBON 100K 5%	1/4W
R610	1-247-895-00	CARBON 470K 5%	1/4W
R612	1-249-435-11	CARBON 33K 5%	1/4W
R613	1-249-441-11	CARBON 100K 5%	1/4W
R614	1-247-895-00	CARBON 470K 5%	1/4W

AMS ENCODER PANEL POWER

Ref. No.	Part No.	Description	Remark
R616-619	1-249-437-11	CARBON 47K 5% 1/4W	
R620	1-260-079-11	CARBON 22 5% 1/2W	
R621	1-260-079-11	CARBON 22 5% 1/2W	

< SWITCH >

Ref. No.	Part No.	Description	Remark
S501	1-467-869-11	ENCODER, ROTARY (VOLUME)	
S502	1-467-968-11	ENCODER, ROTARY (-⏮←→⏭+)	
S503	1-572-184-11	SWITCH, KEYBOARD (SURROUND)	
S504	1-554-303-21	SWITCH, TACTILE (CLOCK SET)	
S505	1-554-303-21	SWITCH, TACTILE (DISPLAY)	
S506	1-554-303-21	SWITCH, TACTILE (FUNCTION)	
S507	1-554-303-21	SWITCH, TACTILE (▶‖)	
S508	1-554-303-21	SWITCH, TACTILE (□)	
S509	1-554-303-21	SWITCH, TACTILE (OPEN/CLOSE⏏)	
S516	1-572-184-11	SWITCH, KEYBOARD (DBFB)	
S517	1-554-303-21	SWITCH, TACTILE (TUNER MEMORY)	
S518	1-554-303-21	SWITCH, TACTILE (ENTER/NEXT)	
S519	1-554-303-21	SWITCH, TACTILE (TUNER/BAND)	
S529	1-572-184-11	SWITCH, KEYBOARD (ROCK)	
S530	1-572-184-11	SWITCH, KEYBOARD (POPS)	
S531	1-572-184-11	SWITCH, KEYBOARD (JAZZ)	
S532	1-572-184-11	SWITCH, KEYBOARD (CLASSIC)	
S533	1-572-184-11	SWITCH, KEYBOARD (DANCE)	
S534	1-554-303-21	SWITCH, TACTILE (TIMER SET)	
S535	1-554-303-21	SWITCH, TACTILE (DAILY)	
S536	1-554-303-21	SWITCH, TACTILE (TIMER REC)	
S537	1-554-303-21	SWITCH, TACTILE (PROGRAM)	
S538	1-554-303-21	SWITCH, TACTILE (SHUFFLE)	
S539	1-554-303-21	SWITCH, TACTILE (CONTINUE)	
S540	1-572-184-11	SWITCH, KEYBOARD (TUNING MODE)	
S541	1-554-303-21	SWITCH, TACTILE (MONO)	
S542	1-572-184-11	SWITCH, KEYBOARD (USER FILE)	
S543	1-554-303-21	SWITCH, TACTILE (MEMORY)	
S544	1-554-303-21	SWITCH, TACTILE (▲)	
S545	1-554-303-21	SWITCH, TACTILE (◀)	
S546	1-554-303-21	SWITCH, TACTILE (▼)	
S547	1-554-303-21	SWITCH, TACTILE (▶)	
S548	1-572-184-11	SWITCH, KEYBOARD (DOLBY NR)	
S549	1-572-184-11	SWITCH, KEYBOARD (DIRECTION)	
S550	1-554-303-21	SWITCH, TACTILE (CD SYNCHRO)	
S551	1-554-303-21	SWITCH, TACTILE (HIGHT SPEED DUBBING)	
S552	1-554-303-21	SWITCH, TACTILE (REC●)	
S553	1-572-184-11	SWITCH, KEYBOARD (PAUSE‖)	
S557	1-554-303-21	SWITCH, TACTILE (SYSTEM POWER)	

< VIBRATOR >

Ref. No.	Part No.	Description	Remark
X501	1-567-819-11	VIBRATOR, CERAMIC (4MHz)	

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Ref. No.	Part No.	Description	Remark
*	A-4377-339-A	POWER AMP BOARD, COMPLETE (AE1, EE)	
*	A-4377-351-A	POWER AMP BOARD, COMPLETE (AE2, UK, G, IT)	
*	A-4377-354-A	POWER AMP BOARD, COMPLETE (E, EA, SP, MY, HK, MX, AR, AUS)	

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Ref. No.	Part No.	Description	Remark
*	4-942-204-01	PLATE, GROUND	

< CAPACITOR >

Ref. No.	Part No.	Description	Remark
C901	1-124-927-11	ELECT 4.7uF 20% 100V	
C902	1-162-292-31	CERAMIC 680PF 10% 50V	
C903	1-162-286-31	CERAMIC 220PF 10% 50V	
C904	1-126-233-11	ELECT 22uF 20% 50V	
C905	1-126-967-11	ELECT 47uF 20% 50V	
C906	1-124-122-11	ELECT 100uF 20% 50V	
C908	1-126-233-11	ELECT 22uF 20% 50V	
C910	1-136-495-11	FILM 0.068uF 5% 50V	
C911	1-136-495-11	FILM 0.068uF 5% 50V	
C920	1-126-923-11	ELECT 220uF 20% 10V	
C925	1-162-284-31	CERAMIC 150PF 10% 50V	
C951	1-124-927-11	ELECT 4.7uF 20% 100V	
C952	1-162-292-31	CERAMIC 680PF 10% 50V	
C953	1-162-286-31	CERAMIC 220PF 10% 50V	
C954	1-126-233-11	ELECT 22uF 20% 50V	
C955	1-126-967-11	ELECT 47uF 20% 50V	
C956	1-124-122-11	ELECT 100uF 20% 50V	
C960	1-136-495-11	FILM 0.068uF 5% 50V	
C961	1-136-495-11	FILM 0.068uF 5% 50V	

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
CN901	1-691-770-11	PLUG (MICRO CONNECTOR) 8P	
CN902	1-691-765-11	PLUG (MICRO CONNECTOR) 3P	

< DIODE >

Ref. No.	Part No.	Description	Remark
D901-903	8-719-987-63	DIODE 1N4148M	
D951	8-719-987-63	DIODE 1N4148M	

< IC >

Ref. No.	Part No.	Description	Remark
IC901	8-749-941-52	IC STK-4152II (AEP, UK, G, IT, EE)	
IC901	8-749-900-34	IC STK-4182MK2 (E, EA, SP, MY, HK, MX, AR, AUS)	

< TRANSISTOR >

Ref. No.	Part No.	Description	Remark
Q901	8-729-116-83	TRANSISTOR 2SD1616-K	
Q951	8-729-116-83	TRANSISTOR 2SD1616-K	

< RESISTOR >

Ref. No.	Part No.	Description	Remark
R901	1-249-417-11	CARBON 1K 5% 1/4W	

Ref. No.	Part No.	Description	Remark
R902	1-249-437-11	CARBON 47K 5% 1/4W	
R903	1-249-417-11	CARBON 1K 5% 1/4W	
R904	1-249-437-11	CARBON 47K 5% 1/4W	
R905	1-249-425-11	CARBON 4.7K 5% 1/4W	(AEP, UK, G, IT, EE)
R905	1-249-427-11	CARBON 6.8K 5% 1/4W	(E, EA, SP, MY, HK, MX, AR, AUS)
R906	1-249-425-11	CARBON 4.7K 5% 1/4W	(AEP, UK, G, IT, EE)
R906	1-249-427-11	CARBON 6.8K 5% 1/4W	(E, EA, SP, MY, HK, MX, AR, AUS)
R907	1-249-425-11	CARBON 4.7K 5% 1/4W	(AEP, UK, G, IT, EE)
R907	1-249-427-11	CARBON 6.8K 5% 1/4W	(E, EA, SP, MY, HK, MX, AR, AUS)
R908	1-249-425-11	CARBON 4.7K 5% 1/4W	(AEP, UK, G, IT, EE)
R908	1-249-427-11	CARBON 6.8K 5% 1/4W	(E, EA, SP, MY, HK, MX, AR, AUS)
⚠R909	1-212-881-11	FUSIBLE 100 5% 1/4W F	
⚠R910	1-217-151-00	RES, METAL PLATE 0.22 F	(AEP, UK, G, IT, EE)
⚠R910	1-217-156-00	RES, METAL PLATE 0.22 F	(E, EA, SP, MY, HK, MX, AR, AUS)
R911	1-249-417-11	CARBON 1K 5% 1/4W	
R912	1-249-431-11	CARBON 15K 5% 1/4W	
R913	1-249-441-11	CARBON 100K 5% 1/4W	
R914-917	1-249-421-11	CARBON 2.2K 5% 1/4W	
R918	1-249-397-11	CARBON 22 5% 1/4W	
R919	1-249-397-11	CARBON 22 5% 1/4W	
R927	1-249-429-11	CARBON 10K 5% 1/4W	
R928	1-249-441-11	CARBON 100K 5% 1/4W	
R930	1-249-429-11	CARBON 10K 5% 1/4W	
R942	1-249-429-11	CARBON 10K 5% 1/4W	
⚠R944	1-217-637-00	FUSIBLE 1 5% 1/4W F	
R951	1-249-417-11	CARBON 1K 5% 1/4W	
R952	1-249-437-11	CARBON 47K 5% 1/4W	
R953	1-249-417-11	CARBON 1K 5% 1/4W	
R954	1-249-437-11	CARBON 47K 5% 1/4W	
R955	1-249-425-11	CARBON 4.7K 5% 1/4W	(AEP, UK, G, IT, EE)
R955	1-249-427-11	CARBON 6.8K 5% 1/4W	(E, EA, SP, MY, HK, MX, AR, AUS)
R956	1-249-425-11	CARBON 4.7K 5% 1/4W	(AEP, UK, G, IT, EE)
R956	1-249-427-11	CARBON 6.8K 5% 1/4W	(E, EA, SP, MY, HK, MX, AR, AUS)
R957	1-249-425-11	CARBON 4.7K 5% 1/4W	(AEP, UK, G, IT, EE)
R957	1-249-427-11	CARBON 6.8K 5% 1/4W	(E, EA, SP, MY, HK, MX, AR, AUS)

Ref. No.	Part No.	Description	Remark
R958	1-249-425-11	CARBON 4.7K 5% 1/4W	(AEP, UK, G, IT, EE)
R958	1-249-427-11	CARBON 6.8K 5% 1/4W	(E, EA, SP, MY, HK, MX, AR, AUS)
⚠R959	1-212-881-11	FUSIBLE 100 5% 1/4W F	
⚠R960	1-217-151-00	RES, METAL PLATE 0.22 F	(AEP, UK, G, IT, EE)
⚠R960	1-217-156-00	RES, METAL PLATE 0.22 F	(E, EA, SP, MY, HK, MX, AR, AUS)
R961	1-249-417-11	CARBON 1K 5% 1/4W	
R962	1-249-431-11	CARBON 15K 5% 1/4W	
R963	1-249-441-11	CARBON 100K 5% 1/4W	
R968	1-249-397-11	CARBON 22 5% 1/4W	
R969	1-249-397-11	CARBON 22 5% 1/4W	

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* 1-655-369-11 TC SWITCH BOARD

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< CONNECTOR >

Ref. No.	Part No.	Description
CN505	1-568-954-11	PIN, CONNECTOR (STRAIGHT) 5P

< DIODE >

Ref. No.	Part No.	Description
D512	8-719-033-06	LED SEL5920A (A)
D513	8-719-046-42	LED SEL5421E-TH8F (▷)
D526	8-719-033-06	LED SEL5920A (B)
D527	8-719-046-42	LED SEL5421E-TH8F (◁)

< RESISTOR >

Ref. No.	Part No.	Description
R528	1-249-409-11	CARBON 220 5% 1/4W
R529	1-249-411-11	CARBON 330 5% 1/4W
R530	1-249-413-11	CARBON 470 5% 1/4W
R531	1-249-414-11	CARBON 560 5% 1/4W
R532	1-249-416-11	CARBON 820 5% 1/4W
R533	1-249-418-11	CARBON 1.2K 5% 1/4W
R534	1-249-420-11	CARBON 1.8K 5% 1/4W

< SWITCH >

Ref. No.	Part No.	Description
S520	1-554-303-21	SWITCH, TACTILE (A DECK/B DECK)
S521	1-554-303-21	SWITCH, TACTILE (◁)
S522	1-554-303-21	SWITCH, TACTILE (▷)
S523	1-554-303-21	SWITCH, TACTILE (■)
S524	1-554-303-21	SWITCH, TACTILE (▶▶)
S525	1-554-303-21	SWITCH, TACTILE (◀◀)

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The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

TRANSFORMER

Ref. No.	Part No.	Description	Remark
*	1-655-373-11	TRANSFORMER BOARD	

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Ref. No.	Part No.	Description	Remark
	1-533-293-11	FUSE HOLDER	

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
* CN801	1-564-526-11	PLUG, CONNECTOR 11P	
CN851	1-564-321-00	PIN, CONNECTOR 2P	

< FUSE >

Ref. No.	Part No.	Description	Remark
⚠F801	1-532-237-00	FUSE (3.15A/250V) (E, EA, SP, HK, MX, AR)	
⚠F802	1-532-078-00	FUSE, TIME-LAG (1A/250V)	(AEP, UK, G, IT, EE)
⚠F802	1-532-259-00	FUSE (1.6A/250V) (E, EA, SP, MY, HK, AR, AUS)	

< SWITCH >

Ref. No.	Part No.	Description	Remark
⚠S801	1-572-675-11	SWITCH, POWER VOLTAGE CHANGE (VOLTAGE SELECTOR) (E, EA, SP, HK, AR)	

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MISCELLANEOUS
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Ref. No.	Part No.	Description	Remark
11	1-569-007-11	ADAPTER, CONVERSION 2P (E3)	
12	1-569-008-11	ADAPTER, CONVERSION 2P (EA, SP, AR)	
13	1-770-019-11	ADAPTOR, CONVERSION (HK)	
63	1-654-751-11	PC BOARD, FLEXIBLE	
65	1-769-689-31	WIRE (FLAT TYPE) (21 CORE)	
66	1-769-688-31	WIRE (FLAT TYPE) (11 CORE)	
67	1-769-690-31	WIRE (FLAT TYPE) (17 CORE)	
303	1-452-719-11	MAGNET ASSY	
⚠355	8-848-387-01	DEVICE, OPTICAL KSS-213BA/S-N	
356	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)	
⚠CNP801	1-575-651-11	CORD, POWER (AEP, G, IT, EE, EA, SP, MY, HK, AR)	
⚠CNP801	1-575-653-11	CORD, POWER (E, MX)	
⚠CNP801	1-696-847-11	CORD, POWER (AUS)	
⚠CNP801	1-751-520-21	CORD, POWER (UK)	
HP101	1-500-093-11	HEAD, MAGNETIC (PLAYBACK) (DECK-A)	
HRPE101	1-500-094-11	HEAD, MAGNETIC (REC/PB/ERASE) (DECK-B)	
M1	X-3369-110-1	MOTOR ASSY (CAPSTAN)	
M2	X-3369-111-1	MOTOR ASSY (TRIGGER)	
M101	X-4917-523-4	MOTOR ASSY (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	
M903	A-4604-363-A	MOTOR (L) ASSY (LOADING)	
⚠T801	1-427-794-12	TRANSFORMER, POWER (AEP, G, IT, EE, UK)	
⚠T801	1-427-795-11	TRANSFORMER, POWER	(E, EA, AR, HK, MX, MY, SP, AUS)

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ACCESSORIES & PACKING MATERIALS
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Ref. No.	Part No.	Description	Remark
	1-467-967-11	REMOTE COMMANDER (RM-S33) (UK)	
	1-501-374-11	ANTENNA, LOOP (UK)	
	1-501-594-11	ANTENNA (FM) (UK)	
	2-181-754-21	COVER (MLY), BATTERY (UK)	
	3-798-608-11	MANUAL, INSTRUCTION (ENGLISH) (UK)	
	4-941-762-01	COVER (MLY), BATTERY (UK)	
*	4-972-277-01	INDIVIDUAL CARTON (UK)	
*	4-972-288-01	CUSHION (FRONT)	
*	4-972-289-01	CUSHION (REAR)	

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HARDWARE LIST

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Ref. No.	Part No.	Description	Remark
#1	7-685-646-79	SCREW +BVTP 3×8 TYPE2 N-S	
#2	7-685-650-79	SCREW +BVTP 3×16 TYPE2 IT-3	
#3	7-682-548-04	SCREW +BVTT 3×8 (S)	
#4	7-685-645-79	SCREW +BVTP 3×6 TYPE2 N-S	
#5	7-685-533-19	SCREW +BTP 2.6×6 TYPE2 N-S	
#6	7-621-775-00	SCREW +B 2.6×3	
#7	7-685-534-19	SCREW +BTP 2.6×8 TYPE2 N-S	
#8	7-621-775-10	SCREW +B 2.6×4	
#9	7-623-921-01	RING, RETAINING, CAPSTAN	
#10	7-621-255-15	SCREW +P 2×3	
#11	7-621-770-67	SCREW +BVTT 2.6×6 (S)	
#12	7-685-131-19	SCREW +BTP 2.6×4 TYPE2 N-S	
#13	7-685-871-01	SCREW +BVTT 3×6 (S)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

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Quality Engineering Dept.

HCD-H801

SONY
SERVICE MANUAL

AEP Model
UK Model
E Model
Australian Model

SUPPLEMENT-1

File this supplement with the service manual.

Subject : Change of the panel board.

(ECN-TA500509)

☛ : **Changed portion.**

Page	FORMER			NEW		
	Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
74	*	A-4377-338-A	PANEL BOARD, COMPLETE (E,EA,SP,MY,HK,MX,AR,AUS)	*	A-4377-338-A	PANEL BOARD, COMPLETE (E2, MX, AR, AUS) ☛
				*	A-4378-564-A ☛	PANEL BOARD, COMPLETE (E3, EA, SP, MY, HK)

NOTE :
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

Sony Corporation
Consumer A&V Products Company
Home A&V Products Div.

9-959-927-81

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HCD-H790

SERVICE MANUAL

AEP Model

Model HCD-H790 is almost same as HCD-H801.
As only the difference from HCD-H801 is described in this manual,
please refer HCD-H801 service manual for the other section.

Page HCD-H801	HCD-H790		
	No.	Part No.	Description
54	* 5	4-980-806-01	PANEL, BACK(AEP)
	* 5	4-980-806-11	PANEL, BACK(G)
	* 5	4-980-806-21	PANEL, BACK(IT)
	* 5	4-980-806-41	PANEL, BACK(EE)
55	51	X-4946-931-1	LID(A)ASSY, CASSETTE
	52	X-4946-932-1	LID(B)ASSY, CASSETTE
	54	4-971-955-21	PANEL, LOADING
	55	4-971-956-21	BUTTON(EJ-A)
	56	4-971-957-21	BUTTON(EJ-B)
	59	X-4946-938-1	BRACKET(VOL)ASSY
56	102	4-971-901-51	PANEL FRONT
	104	4-971-905-01	BUTTON(EQ)
	105	4-971-902-02	WINDOW(FLD)
	106	4-971-913-21	BUTTON(POWER)
	107	X-4946-937-1	BUTTON(CURSOR)ASSY
	108	4-971-907-11	BUTTON(STR-B)
	110	X-4946-936-1	BUTTON(STR-A)ASSY
	111	X-4946-935-1	BUTTON(F/T)ASSY
	115	4-972-642-21	BUTTON(TC-STOP)
	116	X-4946-939-1	BUTTON(TC-PLAY)ASSY
	117	4-970-880-31	BUTTON(KARAOKE)
	121	X-4946-934-1	BUTTON(CD)ASSY

- Abbreviation

G	German
IT	Italian
EE	East European

NOTE :
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

COMPACT DISC DECK RECEIVER

SONY®

MICROFILM

9-960-594-11

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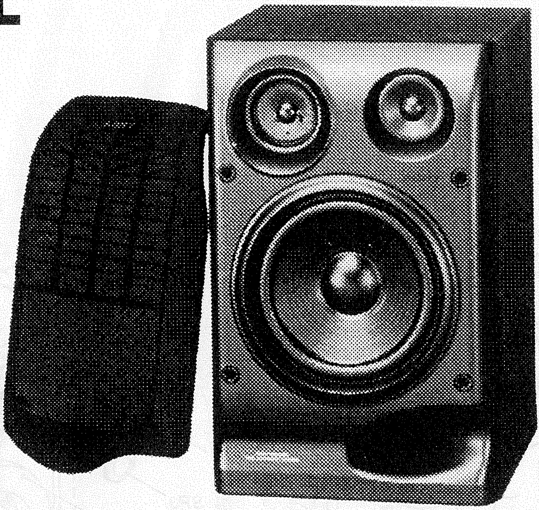
Quality Engineering Dept.

SS-H790

SERVICE MANUAL

AEP Model



This set is the speaker system in MHC-790.

SPECIFICATIONS

Speaker system	3-way, Bass reflex type
Speaker unit	Woofer : 15 cm (6 in.), cone type Tweeter : 5 cm (2 in.), cone type Super tweeter : 2 cm ($^{13}/_{16}$ in.), dome type
Power handling capacity	Maximum input power 150W
Sensitivity	87 dm/W/m
Effective frequency range	60 Hz to 20 KHz
Rated impedance	6 ohms
Dimensions	210 × 325 × 250 mm (w/h/d) ($8\,^{3}/_{8} \times 12\,^{7}/_{8} \times 9\,^{7}/_{8}$ in.)
Mass	Approx. 3.6 kg (7 lb 15 oz.) net per speaker

Design and specifications are subject to change without notice.

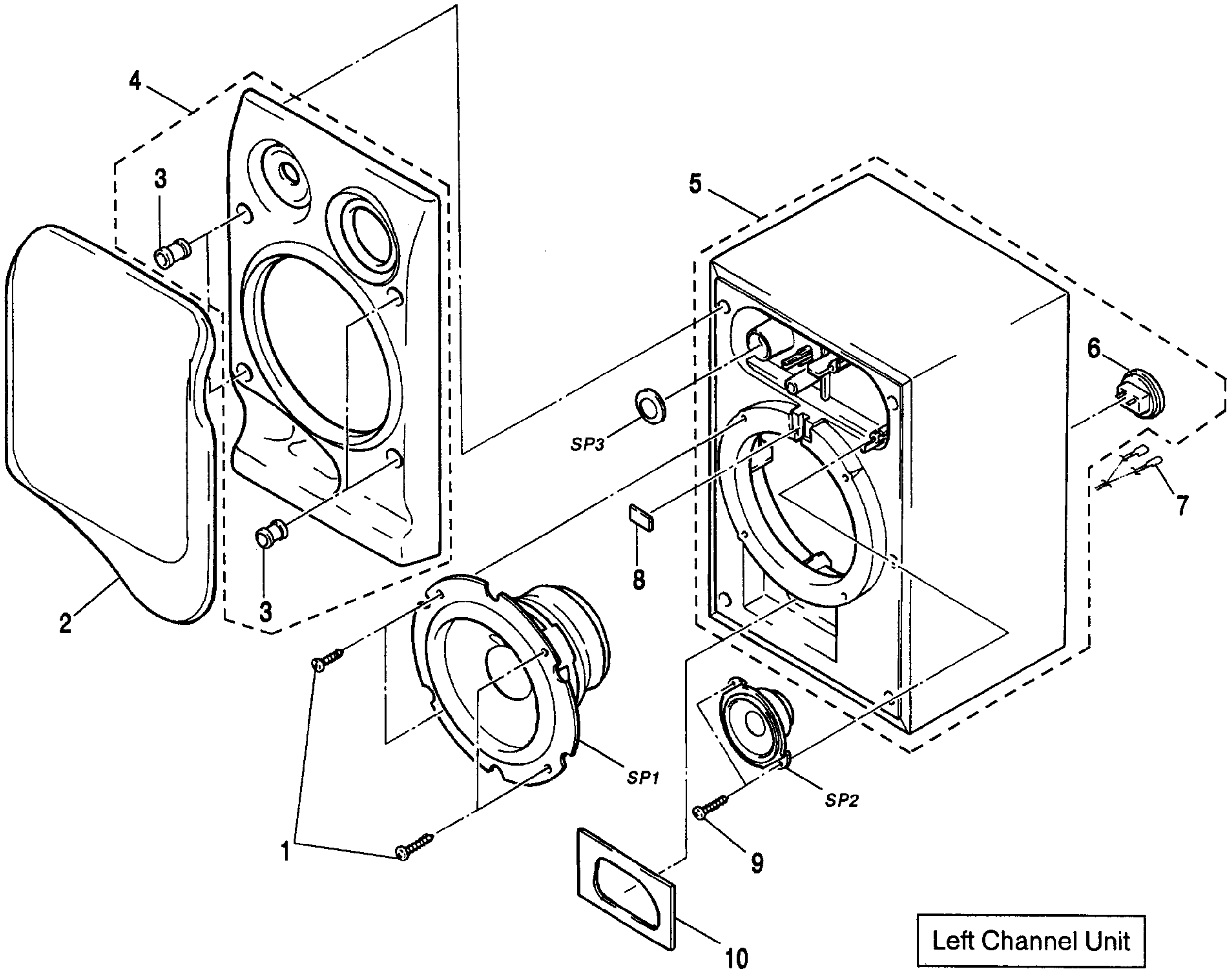
SPEAKER SYSTEM

SONY®

EXPLODED VIEW AND PARTS LIST

NOTE :

- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Abbreviation
  AED : Finland, Norway, Denmark, Sweden
  IT : Italian



Ref. No.	Part No.	Description	Remark
1	4-874-614-11	SCREW +BVTP 3.5×14	
2	X-4947-057-1	FRAME (L) ASSY, GRILLE	
2	X-4947-062-1	FRAME (R) ASSY, GRILLE	
3	4-951-733-01	CATCHER	
4	X-4947-060-1	PANEL (L) ASSY, FRONT	
4	X-4947-061-1	PANEL (R) ASSY, FRONT	
* 5	A-4361-312-B	CABINET (L) ASSY, SPEAKER (AEP, IT)	
* 5	A-4361-314-B	CABINET (R) ASSY, SPEAKER (AEP, IT)	
* 5	X-4361-432-A	CABINET (L) ASSY, SPEAKER (German, AED)	
* 5	X-4361-434-A	CABINET (R) ASSY, SPEAKER (German, AED)	
6	1-537-798-11	TERMINAL BOARD (SPEAKER TERMINAL)	
7	1-696-940-21	CORD, SPEAKER	

Ref. No.	Part No.	Description	Remark
8	9-911-840-XX	PACKING	
9	7-685-646-79	SCREW +BVTP 3×8 TYPE 2 SLIT	
* 10	4-971-211-01	PACKING	
SP1	1-504-767-11	SPEAKER (15CM) (WOOFER)	
SP2	1-504-827-11	SPEAKER (5CM) (TWEETER)	
SP3	1-504-826-11	SPEAKER (2CM) (SUPER TWEETER)	

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ACCESSORIES & PACKING MATERIALS

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	1-769-307-11	CORD, SPEAKER	
*	4-971-484-02	CUSHION	

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